FCC Radio Test Report

FCC ID	:	**UXX-S5A440A**
Contains FCC ID	:	**UXX-2022EG060KNA**
Equipment	:	**Semi-ruggedized IoT Router**
Brand Name	:	**Ericsson**
Model Name	:	**S5A440A**
Applicant	:	**Ericsson Enterprise Solutions, Inc. 1100 W. Idaho St. Boise, ID 83702**
Manufacturer	:	**Ericsson Enterprise Solutions, Inc. 1100 W. Idaho St. Boise, ID 83702**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jun. 20, 2024, and testing was started from Jul. 19, 2024 and completed on Aug. 06, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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PHOTOGRAPHS OF EUT V01

History of this test report

Report No.	Version	Description	Issued Date
FR441838-02AL	01	Initial issue of report	Sep. 20, 2024

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Terry Chang

Report Producer: Michelle Tsai

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Dipole Antenna

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

Monopole Antenna

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

Note:
- Bluetooth LE uses a GFSK (1Mbps) modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	WNC	170836-000	Dipole	Reverse SMA	2.4G+5G+BT
2	Ericsson	CP01	Monopole	Reverse SMA	2.4G+5G+BT
3	Ericsson	170704-002	Dipole	Reverse SMA	4G
4	Ericsson	170704-002	Dipole	Reverse SMA	4G
5	Ericsson	170704-002	Dipole	Reverse SMA	GPS

Ant.	Port	Gain (dBi)					
		2.4G	5G Band 1	5G Band 2	5G Band 3	5G Band 4	BT
1	1	2.47	2.18	2.19	2.14	2.47	2.47
2	2	5.71	4.4	4.63	5.6	5.19	5.71

Note 1: The EUT has five antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

Ant. 1 (port 1) or Ant. 2 (port 2) could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac mode (1TX/1RX)

Ant. 1 (port 1) or Ant. 2 (port 2) could transmit/receive.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 1) or Ant. 2 (port 2) could transmit/receive.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Type of EUT				
☒	Stand-alone			
☐	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:	…		
☐	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:	…		
☐	Other:			

1.1.4 Mode Test Duty Cycle

Dipole Antenna

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-LE(1Mbps)	0.665	1.77	415.938u	3k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

Monopole Antenna

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-LE(1Mbps)	0.665	1.77	415.938u	3k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Multiple Listing

Items	component	SKU list																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Power Supply	Adapter (24W)	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-
	Adapter (36W)	-	-	-	-	-	-	X	X	X	X	X	X	-	-	-	-	-	-
	PoE (PHIHONG)	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X
Module	DB9/Serial Expansion Module	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
	Dual Ethernet Expansion Module	-	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-	X	-
	GPIO Expansion Module	-	-	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-	X
Bracket	Bracket (Ceiling bracket)	X	X	X	-	-	-	X	X	X	-	-	-	X	X	X	-	-	-
	Bracket (DIN Rail)	-	-	-	X	X	X	-	-	-	X	X	X	-	-	-	X	X	X

From the above SKUs, SKU 8 was selected as representative SKU for the test and its data was recorded in this report.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- KDB 558074 D01 v05r02
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua **(TAF:** 3785**)**	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Wayne Chiu	21.4~21.9°C / 54~56%	30/Jul/2024
RF Conducted	TH01-HY	Sonic Li	23.1~23.7°C / 52~55%	26/Jul/2024~29/Jul/2024
Radiated	03CH02-HY	Vasari Huang	21.7~23.8°C / 52~54%	19/Jul/2024~26/Jul/2024
Radiated (Co-location)	03CH02-HY	Vasari Huang	23.6~23.5°C / 55~58%	06/Aug/2024

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	**Uncertainty**	**Remark**
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Receiver Radiated Unwanted Emissions	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	qdart_conn.win.1.0_installer_00099.1

Mode
BT-LE(1Mbps)
2402MHz
2440MHz
2480MHz

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	Adapter Mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	Adapter Mode；Dipole Antenna		
2	Adapter Mode；Monopole Antenna		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
Worst Planes of EUT	V (Dipole Antenna)		V (Monopole Antenna)

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	Wi-Fi (2.4GHz) + Bluetooth + WWAN (4G)
2	Wi-Fi (5GHz) + Bluetooth + WWAN (4G)
Refer to Sporton Test Report No.: FA441838-02 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.3 Accessories

Accessories				
AC Adapter 1 (24W)	Brand Name	APD	Model Name	WB-24M12R
	Power Rating	I/P: 100 - 240Vac, 0.7A, O/P: 12Vdc, 2A		
	Power Cord	1.45 meter, non-shielded cable, w/o ferrite core		
AC Adapter 2 (36W)	Brand Name	APD	Model Name	WA-36N12R
	Power Rating	I/P: 100 - 240Vac, 0.9A, O/P: 12Vdc, 3A		
	Power Cord	1.45 meter, non-shielded cable, w/o ferrite core		
PoE	Brand Name	PHIHONG	Model Name	POE15M-AFA
	Power Rating	I/P: 100-240Vac, 0.8A, O/P: 56Vdc, 0.275A		
Ceiling Bracket	Brand Name	Ericsson	Model Name	170920-000
DIN Rail	Brand Name	Ericsson	Model Name	170904-001
DB9/Serial Expansion Module	Brand Name	Ericsson	Model Name	MC20-SRL
Dual Ethernet Expansion Module	Brand Name	Ericsson	Model Name	MC20-ETH
GPIO Expansion Module	Brand Name	Ericsson	Model Name	MC20-GPO
WLAN ANT 1 (Dipole)	Brand Name	WNC	Model Name	170836-000
WLAN ANT 2 (Monopole)	Brand Name	Ericsson	Model Name	CP01
LTE ANT	Brand Name	Ericsson	Model Name	170704-002

Reminder: Regarding to more detail and other information, please refer to user manual.

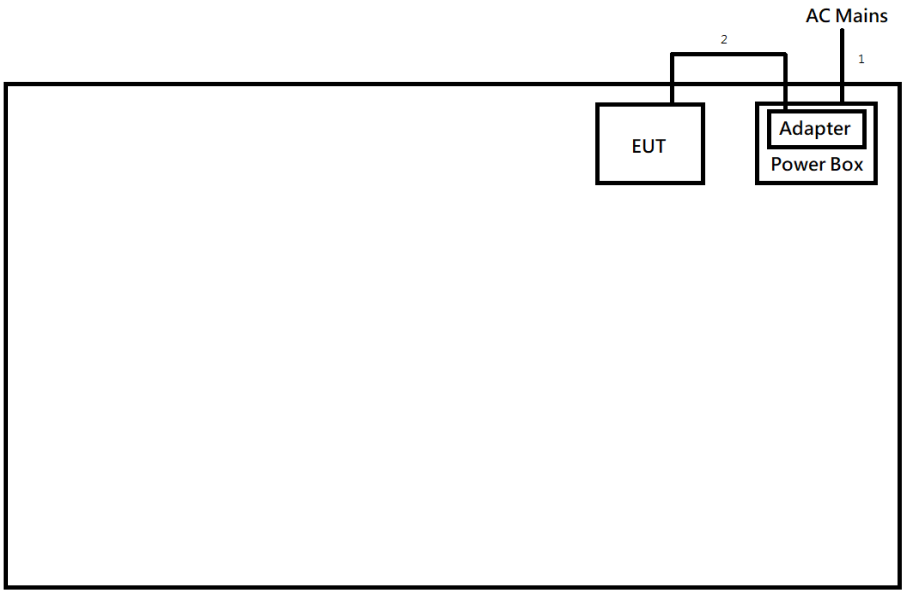
2.4 Support Equipment

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	SIM Card for WWAN	R&S	eSIM	-	-
2	WIDEBAND ADIO COMMUNICATION TESTER	R&S	CMW 500	-	Remote

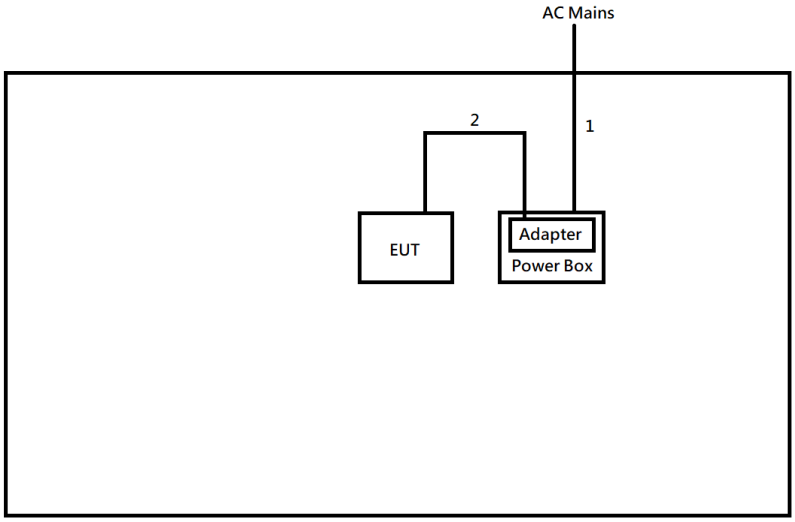
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



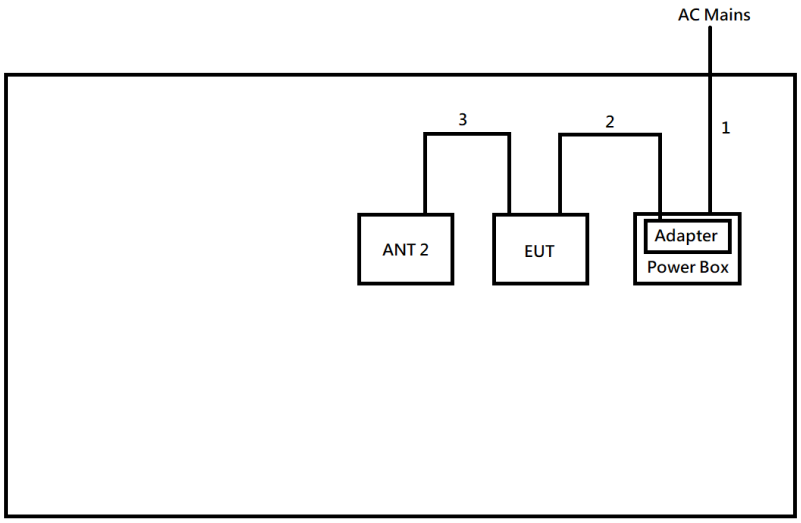
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.0	-
2	DC Power cable	No	1.45	-

Test Setup Diagram - Radiated Test (Dipole Antenna)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.45	-

Test Setup Diagram - Radiated Test (Monopole Antenna)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.45	-
3	ANT cable	No	1.7	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

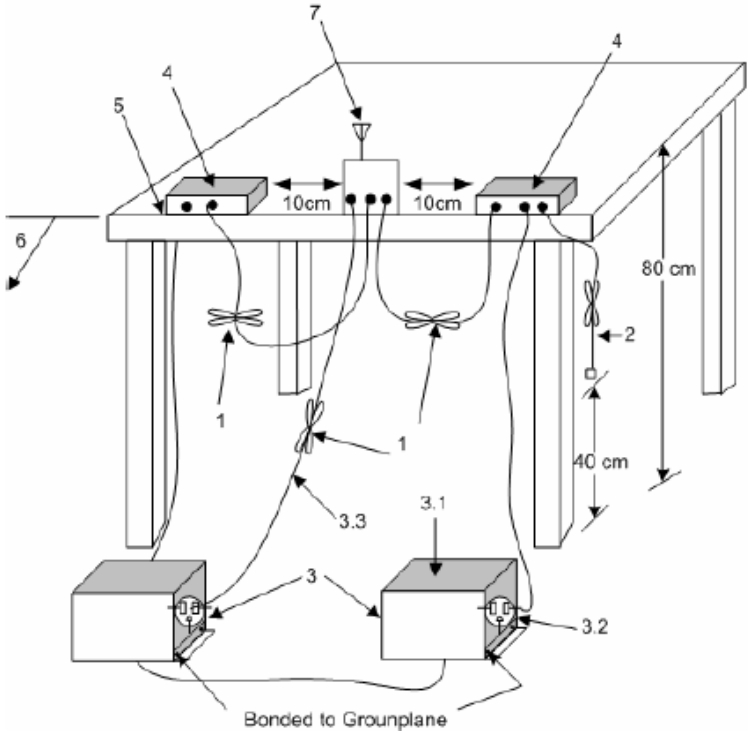
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ωloads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

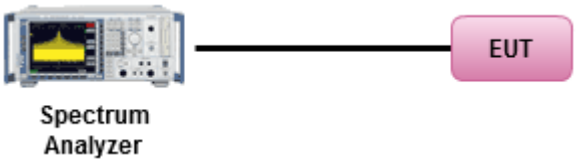
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
	☐ Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
	☐ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit			
	▪ If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)		
	▪ Point-to-multipoint systems (P2M): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6) dBm		
	▪ Point-to-point systems (P2P): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm		
	▪ Smart antenna system (SAS):		
		- Single beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Overlap beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Aggregate power on all beams: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 + 8dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)		
	▪ Point-to-point systems (P2P): P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX}]) dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Overlap beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Aggregate power on all beams: P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX} + 8]) dBm	
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.			

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	☐ Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	☐ Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
▪ Maximum Average Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	☒ Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)

3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD)≤8 dBm/3kHz

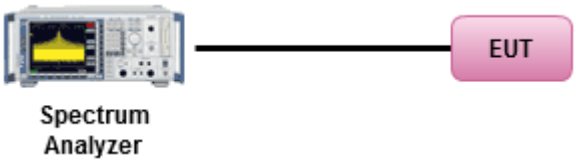
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dB)**
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.	

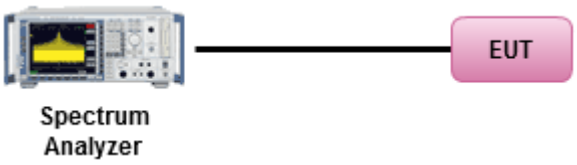
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

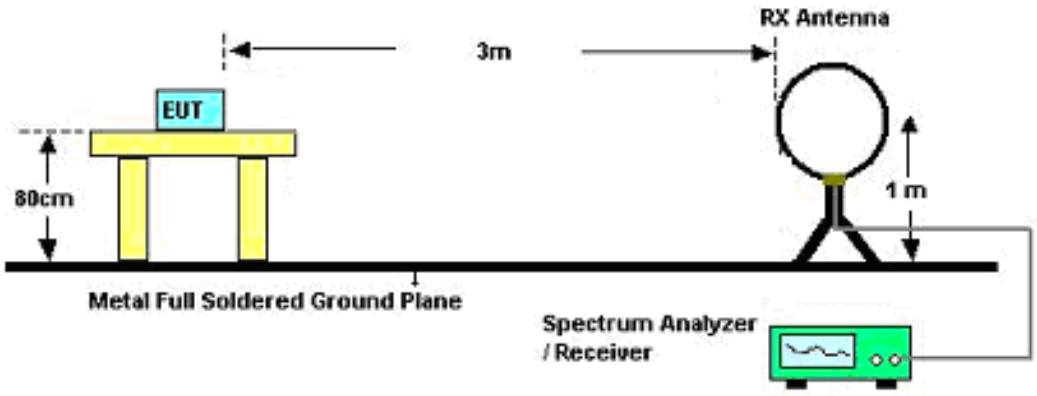
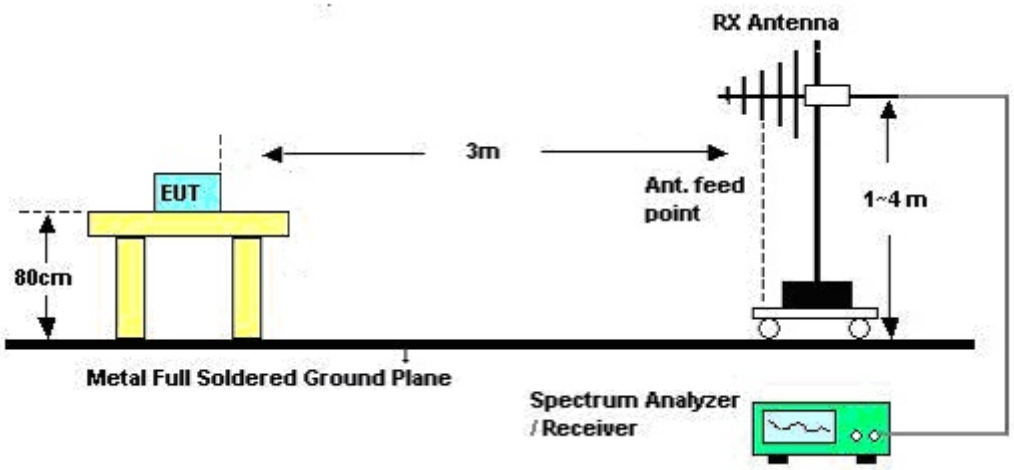
3.6.3 Test Procedures

Test Method	
▪	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪	For the transmitter unwanted emissions shall be measured using following options below:
	▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪	For the transmitter band-edge emissions shall be measured using following options below:
	▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
▪	Use the following spectrum analyzer settings:
	▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
▪	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	▪ Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

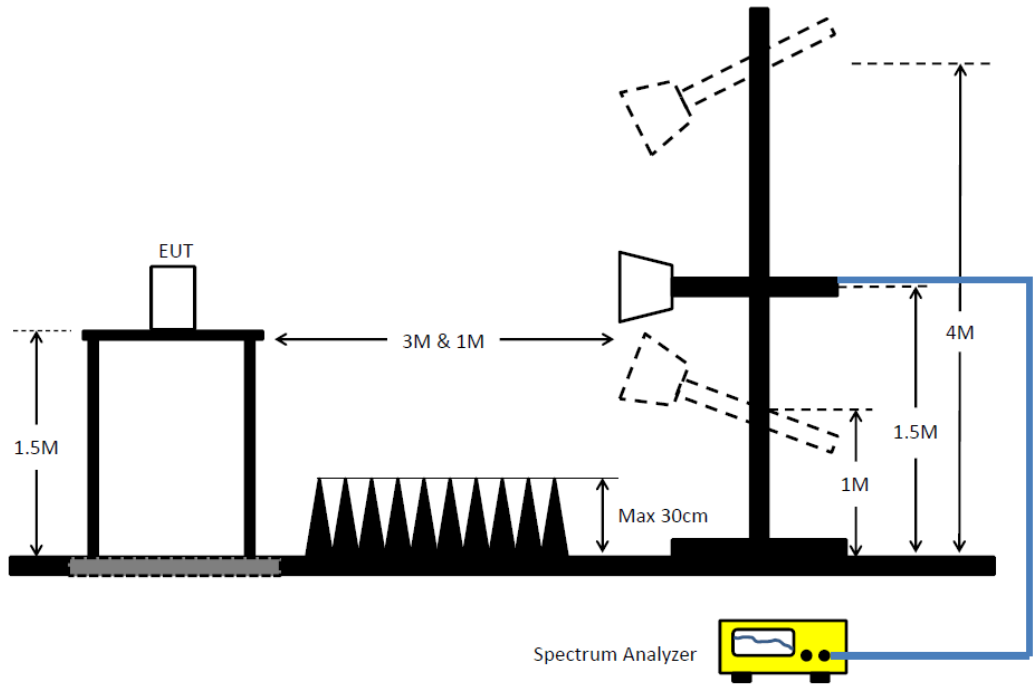
3.6.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.6.5 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	R&S	ENV 216	101274	9kHz ~ 30MHz	18/Jun/2024	17/Jun/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	29/Jul/2023	28/Jul/2024
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	28/Jul/2023	27/Jul/2024
EMI Test Receiver	R&S	ESR	102052	9kHz~3.6GHz	03/May/2024	02/May/2025
Signal Analyzer	R&S	FSP 40	100593	9kHz~40GHz	11/Mar/2024	10/Mar/2025
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723/2	30MHz~1GHz	27/Aug/2023	26/Aug/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz~18GHz	23/Sep/2023	22/Sep/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	9kHz~30MHz	19/Dec/2023	18/Dec/2024
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	30MHz~1GHz	19/Dec/2023	18/Dec/2024
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX 104	03CH02-cable-01	1GHz~40GHz	15/Feb/2024	14/Feb/2025
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	29/Jun/2024	28/Jun/2025
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	24/Oct/2023	23/Oct/2024
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	15/Apr/2024	14/Apr/2025
SENSE-15247-FS	Sporton	V5.11.18	NA	NA	NA	NA

Instrument for Radiated Test (Co-location)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	14/Jul/2024	13/Jul/2025
Signal Analyzer	R&S	FSP 40	100593	9kHz~40GHz	11/Mar/2024	10/Mar/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz~18GHz	23/Sep/2023	22/Sep/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX 104	03CH02-cable-01	1GHz~40GHz	15/Feb/2024	14/Feb/2025
Preamplifier	SGH	PRAMP 118-HS	202300913-2	1GHz~18GHz	18/Jan/2024	17/Jan/2025
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	15/Apr/2024	14/Apr/2025
WIDEBAND ADIO COMMUNICATION TESTER	R&S	CMW 500	141962	N/A	02/Nov/2023	01/Nov/2024
SENSE-EMI	Sporton	V5.11.8	N/A	N/A	N/A	N/A

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	09/Apr/2024	08/Apr/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	17/Feb/2024	16/Feb/2025
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	17/Feb/2024	16/Feb/2025
SENSE-15247_FS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

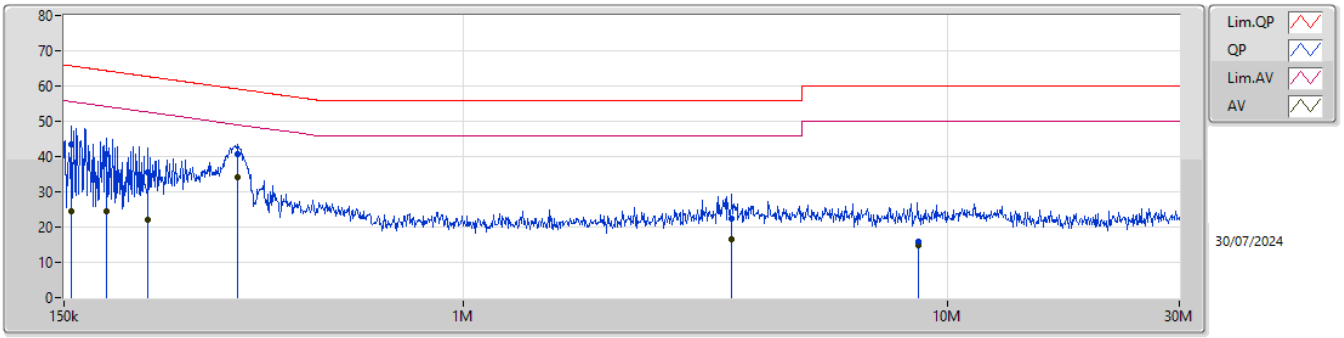
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	342.744k	34.10	49.14	-15.04	Line

Result

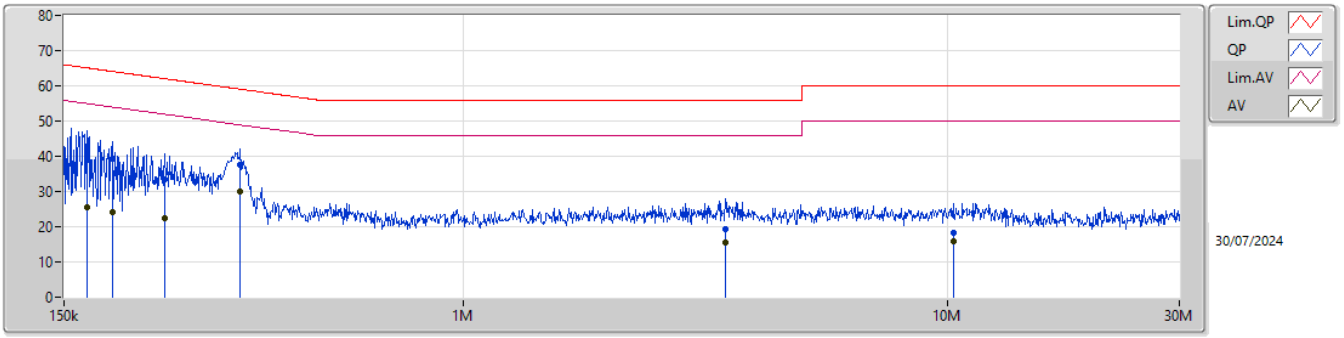
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	155.487k	43.56	65.69	-22.13	Line	-
Mode 1	Pass	AV	155.487k	24.60	55.69	-31.09	Line	-
Mode 1	Pass	QP	183.137k	40.58	64.34	-23.76	Line	-
Mode 1	Pass	AV	183.137k	24.33	54.34	-30.01	Line	-
Mode 1	Pass	QP	223.595k	35.40	62.69	-27.29	Line	-
Mode 1	Pass	AV	223.595k	22.05	52.69	-30.64	Line	-
Mode 1	Pass	QP	342.744k	40.86	59.14	-18.28	Line	-
Mode 1	Pass	AV	342.744k	34.10	49.14	-15.04	Line	-
Mode 1	Pass	QP	3.584M	22.48	56.00	-33.52	Line	-
Mode 1	Pass	AV	3.584M	16.46	46.00	-29.54	Line	-
Mode 1	Pass	QP	8.661M	15.92	60.00	-44.08	Line	-
Mode 1	Pass	AV	8.661M	14.66	50.00	-35.34	Line	-
Mode 1	Pass	QP	167.071k	42.76	65.10	-22.34	Neutral	-
Mode 1	Pass	AV	167.071k	25.61	55.10	-29.49	Neutral	-
Mode 1	Pass	QP	189.08k	39.46	64.07	-24.61	Neutral	-
Mode 1	Pass	AV	189.08k	24.00	54.07	-30.07	Neutral	-
Mode 1	Pass	QP	242.179k	33.34	62.02	-28.68	Neutral	-
Mode 1	Pass	AV	242.179k	22.54	52.02	-29.48	Neutral	-
Mode 1	Pass	QP	346.873k	37.51	59.04	-21.53	Neutral	-
Mode 1	Pass	AV	346.873k	29.85	49.04	-19.19	Neutral	-
Mode 1	Pass	QP	3.472M	19.15	56.00	-36.85	Neutral	-
Mode 1	Pass	AV	3.472M	15.64	46.00	-30.36	Neutral	-
Mode 1	Pass	QP	10.241M	18.31	60.00	-41.69	Neutral	-
Mode 1	Pass	AV	10.241M	15.93	50.00	-34.07	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	155.487k	43.56	65.69	-22.13	19.48	Line	-	24.08	9.66	0.07	9.75
AV	155.487k	24.60	55.69	-31.09	19.48	Line	-	5.12	9.66	0.07	9.75
QP	183.137k	40.58	64.34	-23.76	19.43	Line	-	21.15	9.65	0.08	9.70
AV	183.137k	24.33	54.34	-30.01	19.43	Line	-	4.90	9.65	0.08	9.70
QP	223.595k	35.40	62.69	-27.29	19.43	Line	-	15.97	9.65	0.09	9.69
AV	223.595k	22.05	52.69	-30.64	19.43	Line	-	2.62	9.65	0.09	9.69
QP	342.744k	40.86	59.14	-18.28	19.50	Line	-	21.36	9.65	0.11	9.74
AV	342.744k	34.10	49.14	-15.04	19.50	Line	-	14.60	9.65	0.11	9.74
QP	3.584M	22.48	56.00	-33.52	19.56	Line	-	2.92	9.69	0.08	9.79
AV	3.584M	16.46	46.00	-29.54	19.56	Line	-	-3.10	9.69	0.08	9.79
QP	8.661M	15.92	60.00	-44.08	19.55	Line	-	-3.63	9.71	0.05	9.79
AV	8.661M	14.66	50.00	-35.34	19.55	Line	-	-4.89	9.71	0.05	9.79

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	167.071k	42.76	65.10	-22.34	19.40	Neutral	-	23.36	9.60	0.07	9.73
AV	167.071k	25.61	55.10	-29.49	19.40	Neutral	-	6.21	9.60	0.07	9.73
QP	189.08k	39.46	64.07	-24.61	19.39	Neutral	-	20.07	9.60	0.09	9.70
AV	189.08k	24.00	54.07	-30.07	19.39	Neutral	-	4.61	9.60	0.09	9.70
QP	242.179k	33.34	62.02	-28.68	19.40	Neutral	-	13.94	9.60	0.10	9.70
AV	242.179k	22.54	52.02	-29.48	19.40	Neutral	-	3.14	9.60	0.10	9.70
QP	346.873k	37.51	59.04	-21.53	19.45	Neutral	-	18.06	9.60	0.11	9.74
AV	346.873k	29.85	49.04	-19.19	19.45	Neutral	-	10.40	9.60	0.11	9.74
QP	3.472M	19.15	56.00	-36.85	19.49	Neutral	-	-0.34	9.62	0.08	9.79
AV	3.472M	15.64	46.00	-30.36	19.49	Neutral	-	-3.85	9.62	0.08	9.79
QP	10.241M	18.31	60.00	-41.69	19.50	Neutral	-	-1.19	9.66	0.05	9.79
AV	10.241M	15.93	50.00	-34.07	19.50	Neutral	-	-3.57	9.66	0.05	9.79

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	683.75k	1.062M	1M06F1D	636.25k	1.044M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

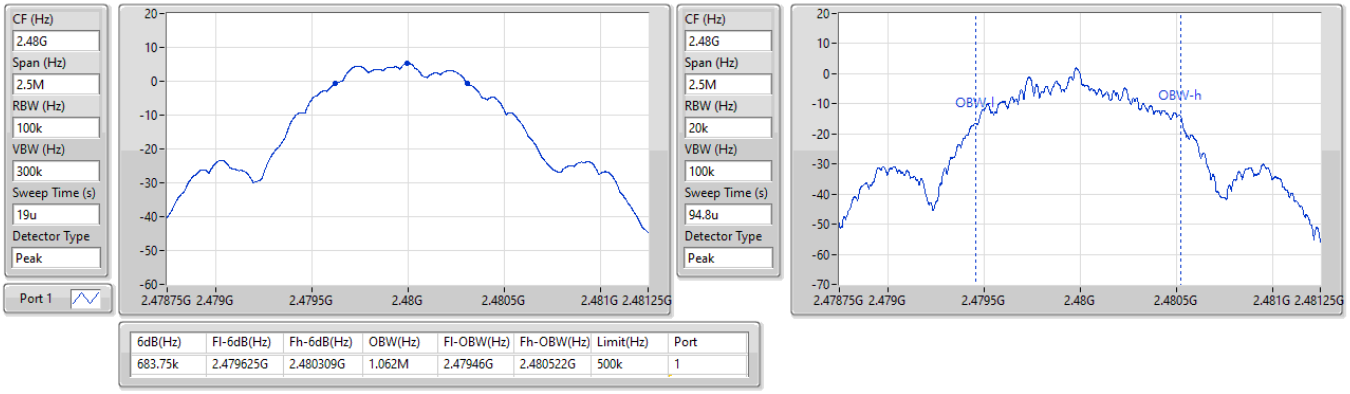
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	636.25k	1.062M
2440MHz	Pass	500k	676.25k	1.044M
2480MHz	Pass	500k	683.75k	1.062M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2480MHz

26/07/2024



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
683.75k	2.479625G	2.480309G	1.062M	2.47946G	2.480522G	500k	1

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	677.5k	1.062M	1M06F1D	628.75k	1.054M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

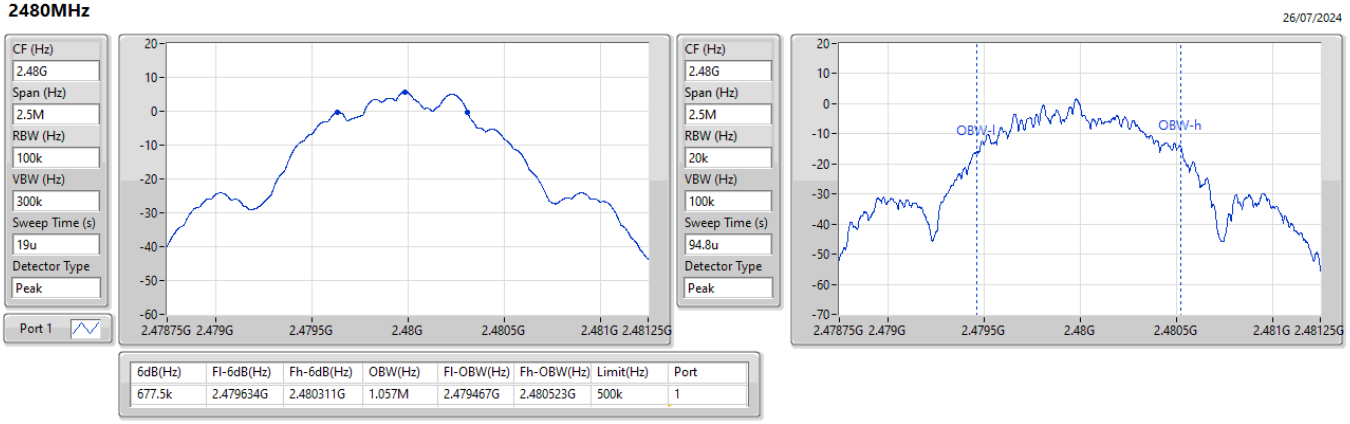
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	663.75k	1.062M
2440MHz	Pass	500k	628.75k	1.054M
2480MHz	Pass	500k	677.5k	1.057M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
677.5k	2.479634G	2.480311G	1.057M	2.479467G	2.480523G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	5.27	0.00337

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.47	3.43	30.00
2440MHz	Pass	2.47	5.27	30.00
2480MHz	Pass	2.47	4.74	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	5.25	0.00335

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	5.71	3.48	30.00
2440MHz	Pass	5.71	5.25	30.00
2480MHz	Pass	5.71	4.73	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.39

RBW = 3kHz;

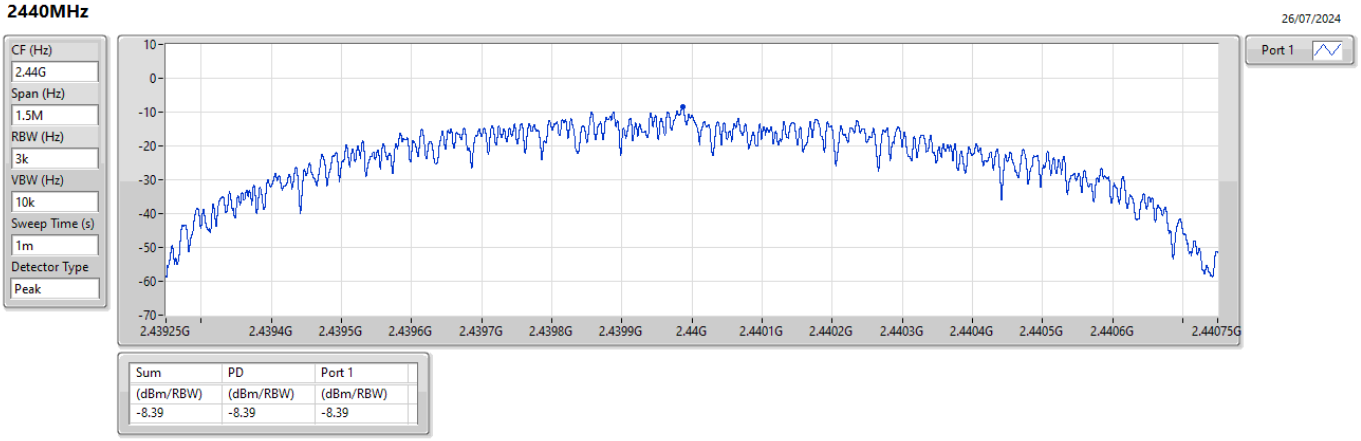
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.47	-10.71	8.00
2440MHz	Pass	2.47	-8.39	8.00
2480MHz	Pass	2.47	-9.05	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.39	-8.39	-8.39

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.93

RBW = 3kHz;

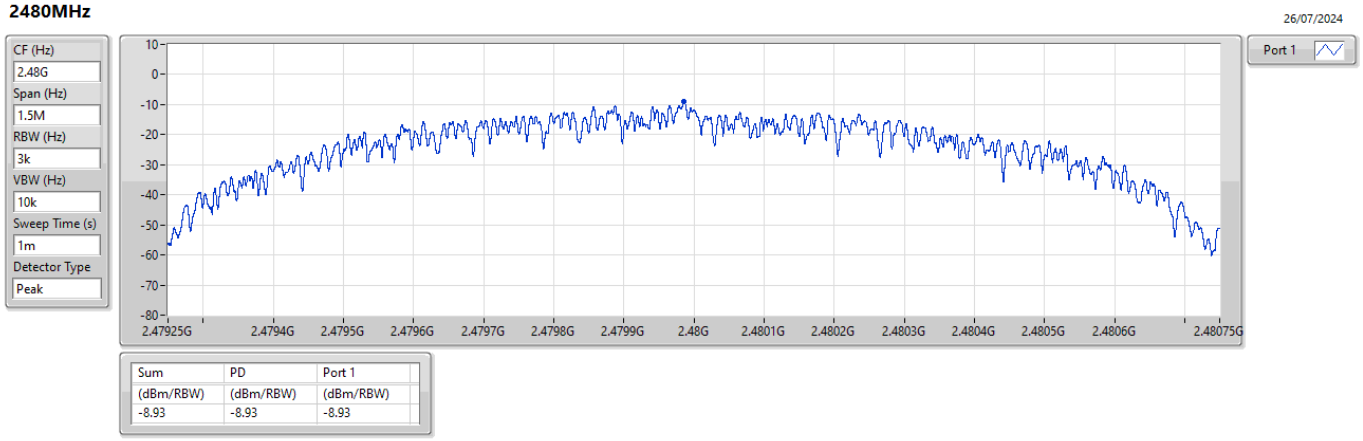
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	5.71	-10.20	8.00
2440MHz	Pass	5.71	-9.25	8.00
2480MHz	Pass	5.71	-8.93	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

2480MHz



Summary

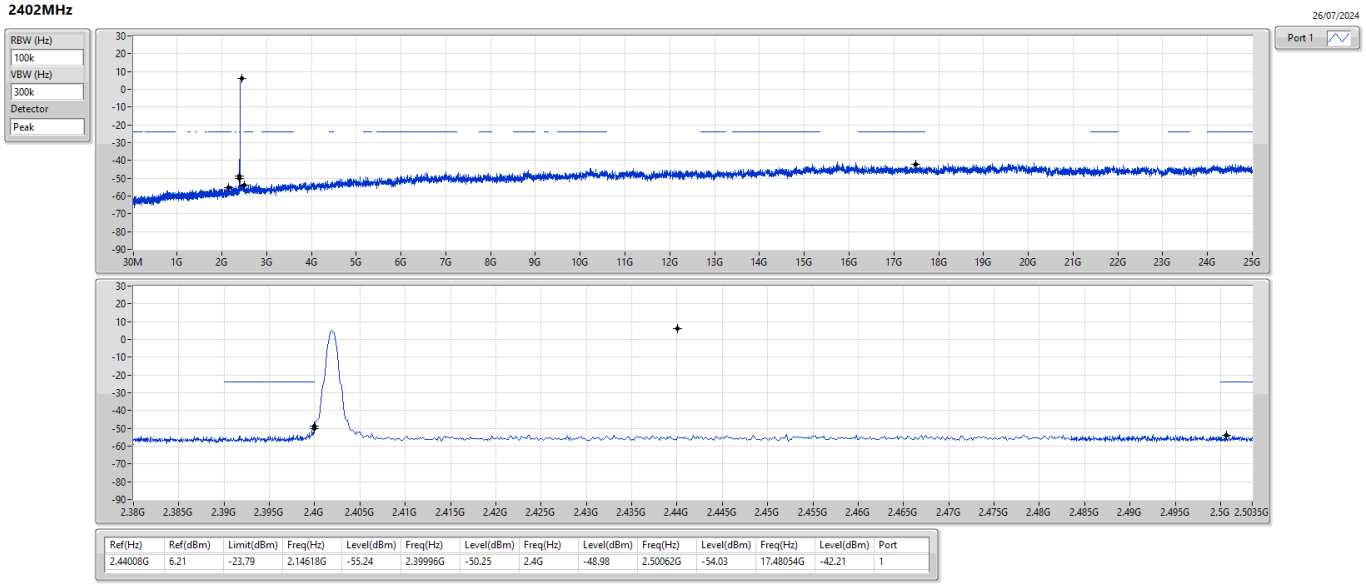
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.44008G	6.21	-23.79	2.14618G	-55.24	2.39996G	-50.25	2.4G	-48.98	2.50062G	-54.03	17.48054G	-42.21	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.44008G	6.21	-23.79	2.14618G	-55.24	2.39996G	-50.25	2.4G	-48.98	2.50062G	-54.03	17.48054G	-42.21	1
2440MHz	Pass	2.44008G	6.21	-23.79	2.30245G	-55.82	2.3988G	-53.26	2.4G	-55.69	2.50142G	-53.96	24.29136G	-41.04	1
2480MHz	Pass	2.44008G	6.21	-23.79	2.10623G	-55.49	2.39912G	-54.19	2.4G	-55.33	2.5033G	-54.18	24.89595G	-41.01	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44008G	6.21	-23.79	2.14618G	-55.24	2.39996G	-50.25	2.4G	-48.98	2.50062G	-54.03	17.48054G	-42.21	1

Summary

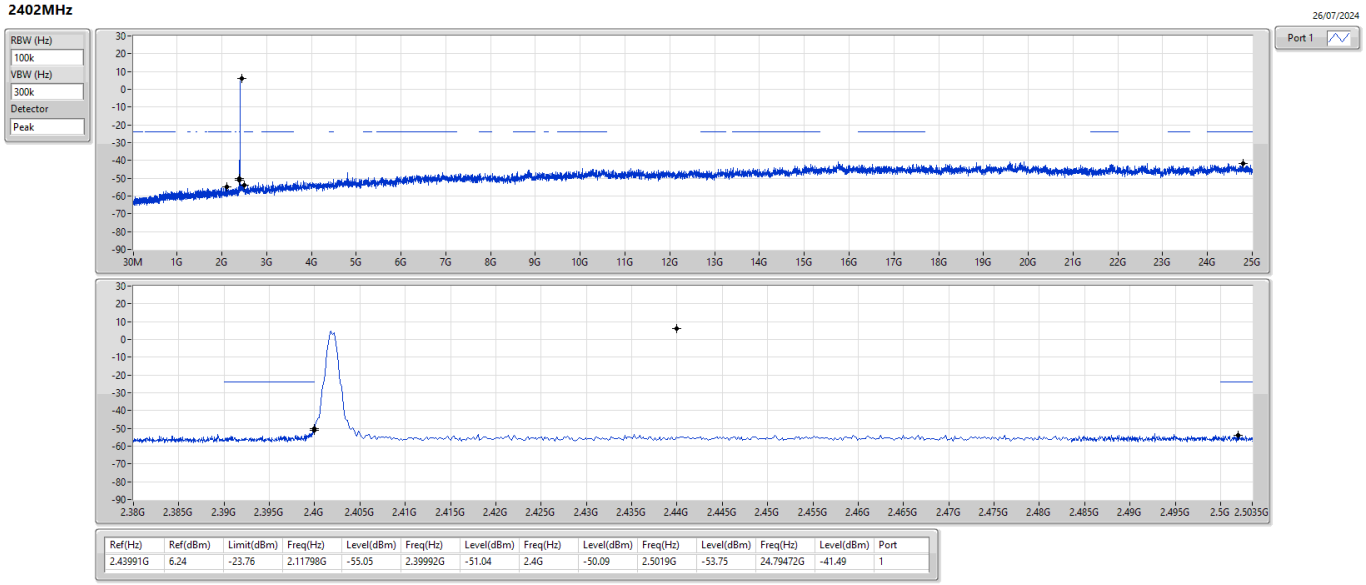
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.43991G	6.24	-23.76	2.11798G	-55.05	2.39992G	-51.04	2.4G	-50.09	2.5019G	-53.75	24.79472G	-41.49	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43991G	6.24	-23.76	2.11798G	-55.05	2.39992G	-51.04	2.4G	-50.09	2.5019G	-53.75	24.79472G	-41.49	1
2440MHz	Pass	2.43991G	6.24	-23.76	2.1027G	-55.66	2.39168G	-53.28	2.4G	-55.87	2.50058G	-54.23	24.58381G	-40.99	1
2480MHz	Pass	2.43991G	6.24	-23.76	2.13325G	-55.32	2.39004G	-53.76	2.4G	-55.95	2.5019G	-54.04	24.79753G	-41.08	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	6.24	-23.76	2.11798G	-55.05	2.39992G	-51.04	2.4G	-50.09	2.5019G	-53.75	24.79472G	-41.49	1

Summary

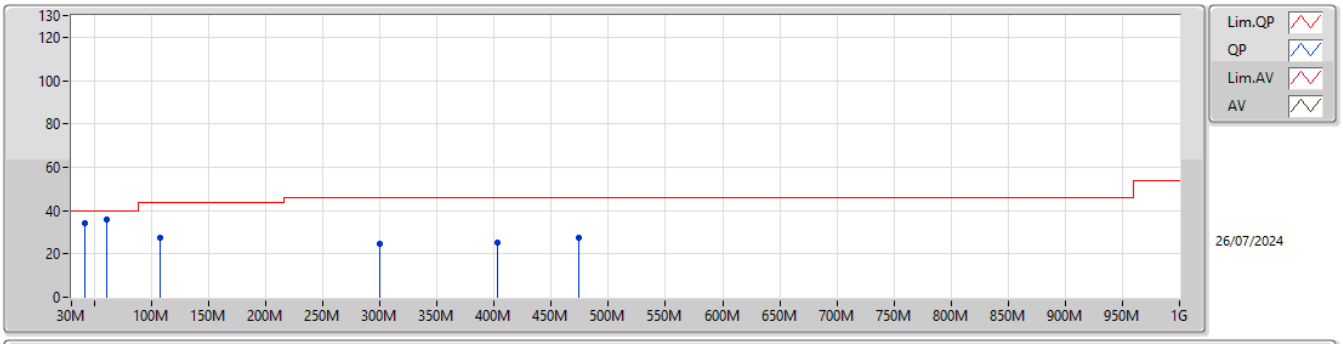
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	61.04M	35.68	40.00	-4.32	3	Vertical	360	3.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2480MHz_Adapter	Pass	PK	61.04M	35.68	40.00	-4.32	3	Vertical	360	3.00
2480MHz_Adapter	Pass	PK	107.6M	27.27	43.50	-16.23	3	Vertical	360	3.00
2480MHz_Adapter	Pass	PK	299.66M	24.41	46.00	-21.59	3	Vertical	360	3.00
2480MHz_Adapter	Pass	PK	402.48M	25.31	46.00	-20.69	3	Vertical	360	3.00
2480MHz_Adapter	Pass	PK	474.26M	27.28	46.00	-18.72	3	Vertical	360	3.00
2480MHz_Adapter	Pass	QP	41.83M	34.40	40.00	-5.60	3	Vertical	29	1.01
2480MHz_Adapter	Pass	PK	62.98M	29.84	40.00	-10.16	3	Horizontal	0	3.00
2480MHz_Adapter	Pass	PK	107.6M	32.12	43.50	-11.38	3	Horizontal	0	3.00
2480MHz_Adapter	Pass	PK	220.12M	35.17	46.00	-10.83	3	Horizontal	0	3.00
2480MHz_Adapter	Pass	PK	297.72M	30.80	46.00	-15.20	3	Horizontal	0	3.00
2480MHz_Adapter	Pass	PK	454.86M	26.52	46.00	-19.48	3	Horizontal	0	3.00
2480MHz_Adapter	Pass	PK	540.22M	27.55	46.00	-18.45	3	Horizontal	0	3.00

2.4-2.4835GHz_BT-LE(1Mbps)

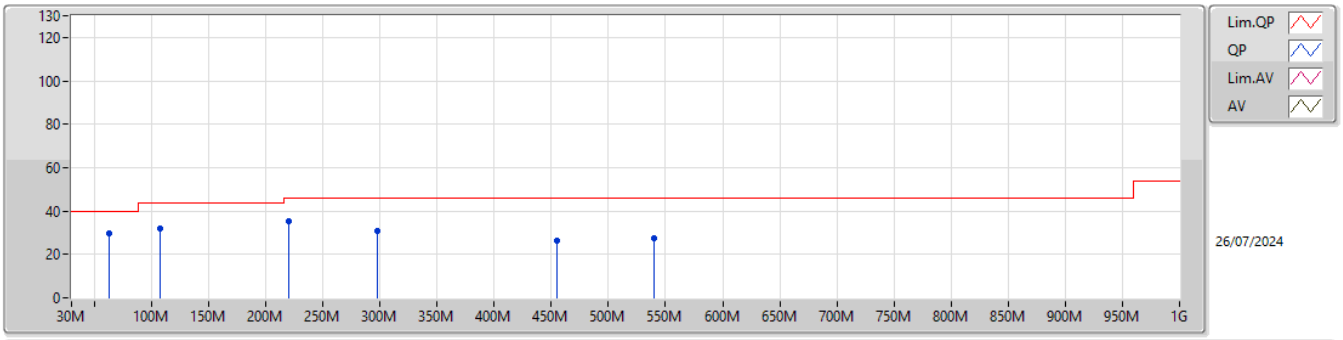
2480MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	61.04M	35.68	40.00	-4.32	-13.58	3	Vertical	360	3.00	49.26	11.51	1.72	26.81
PK	107.6M	27.27	43.50	-16.23	-8.81	3	Vertical	360	3.00	36.08	16.73	2.08	27.62
PK	299.66M	24.41	46.00	-21.59	-5.16	3	Vertical	360	3.00	29.57	18.20	3.66	27.02
PK	402.48M	25.31	46.00	-20.69	-2.45	3	Vertical	360	3.00	27.76	21.08	4.25	27.78
PK	474.26M	27.28	46.00	-18.72	-0.94	3	Vertical	360	3.00	28.22	22.52	4.73	28.19
QP	41.83M	34.40	40.00	-5.60	-7.46	3	Vertical	29	1.01	41.86	17.29	1.41	26.16

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	62.98M	29.84	40.00	-10.16	-13.78	3	Horizontal	0	3.00	43.62	11.42	1.73	26.93
PK	107.6M	32.12	43.50	-11.38	-8.81	3	Horizontal	0	3.00	40.93	16.73	2.08	27.62
PK	220.12M	35.17	46.00	-10.83	-9.79	3	Horizontal	0	3.00	44.96	14.35	3.06	27.20
PK	297.72M	30.80	46.00	-15.20	-5.26	3	Horizontal	0	3.00	36.06	18.12	3.64	27.02
PK	454.86M	26.52	46.00	-19.48	-1.46	3	Horizontal	0	3.00	27.98	22.01	4.62	28.09
PK	540.22M	27.55	46.00	-18.45	0.11	3	Horizontal	0	3.00	27.44	23.34	5.08	28.31

Summary

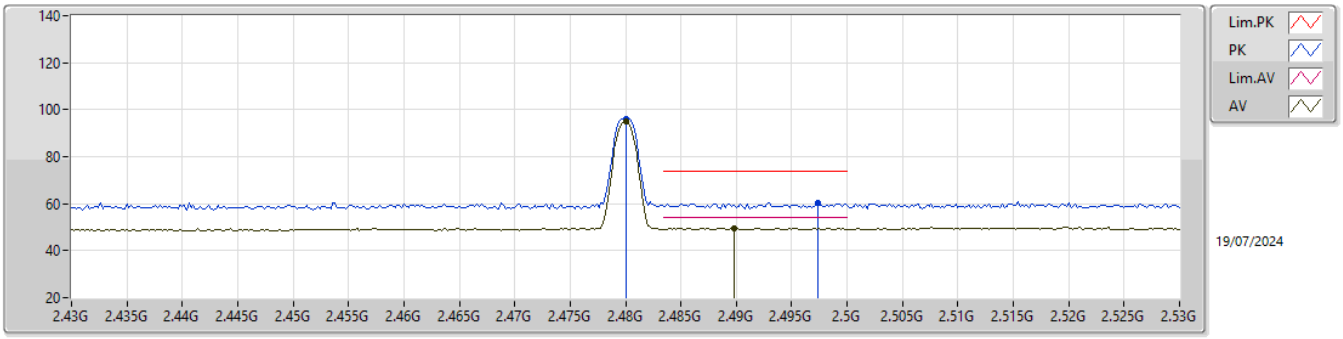
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	4.95974G	52.15	54.00	-1.85	3	Horizontal	185	1.50

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3876G	48.64	54.00	-5.36	3	Vertical	174	2.03
2402MHz	Pass	AV	2.402G	90.71	Inf	-Inf	3	Vertical	174	2.03
2402MHz	Pass	PK	2.389G	60.10	74.00	-13.90	3	Vertical	174	2.03
2402MHz	Pass	PK	2.4022G	91.85	Inf	-Inf	3	Vertical	174	2.03
2402MHz	Pass	AV	2.3798G	48.79	54.00	-5.21	3	Horizontal	123	1.68
2402MHz	Pass	AV	2.402G	100.39	Inf	-Inf	3	Horizontal	123	1.68
2402MHz	Pass	PK	2.3706G	59.98	74.00	-14.02	3	Horizontal	123	1.68
2402MHz	Pass	PK	2.4022G	101.40	Inf	-Inf	3	Horizontal	123	1.68
2402MHz	Pass	AV	4.80381G	39.78	54.00	-14.22	3	Vertical	273	2.71
2402MHz	Pass	PK	4.80442G	46.88	74.00	-27.12	3	Vertical	273	2.71
2402MHz	Pass	AV	4.80368G	51.55	54.00	-2.45	3	Horizontal	175	2.28
2402MHz	Pass	PK	4.80393G	56.11	74.00	-17.89	3	Horizontal	175	2.28
2440MHz	Pass	AV	2.3696G	48.53	54.00	-5.47	3	Vertical	39	3.00
2440MHz	Pass	AV	2.44G	99.37	Inf	-Inf	3	Vertical	39	3.00
2440MHz	Pass	AV	2.4904G	49.66	54.00	-4.34	3	Vertical	39	3.00
2440MHz	Pass	PK	2.384G	59.24	74.00	-14.76	3	Vertical	39	3.00
2440MHz	Pass	PK	2.4404G	100.34	Inf	-Inf	3	Vertical	39	3.00
2440MHz	Pass	PK	2.4948G	61.49	74.00	-12.51	3	Vertical	39	3.00
2440MHz	Pass	AV	2.3504G	48.65	54.00	-5.35	3	Horizontal	127	1.85
2440MHz	Pass	AV	2.44G	100.79	Inf	-Inf	3	Horizontal	127	1.85
2440MHz	Pass	AV	2.4888G	49.66	54.00	-4.34	3	Horizontal	127	1.85
2440MHz	Pass	PK	2.3464G	58.96	74.00	-15.04	3	Horizontal	127	1.85
2440MHz	Pass	PK	2.44G	101.87	Inf	-Inf	3	Horizontal	127	1.85
2440MHz	Pass	PK	2.4988G	60.70	74.00	-13.30	3	Horizontal	127	1.85
2440MHz	Pass	AV	4.87963G	43.73	54.00	-10.27	3	Vertical	279	2.90
2440MHz	Pass	AV	7.31801G	34.98	54.00	-19.02	3	Vertical	94	2.86
2440MHz	Pass	PK	4.88045G	49.81	74.00	-24.19	3	Vertical	279	2.90
2440MHz	Pass	PK	7.32149G	46.33	74.00	-27.67	3	Vertical	94	2.86
2440MHz	Pass	AV	4.87987G	51.84	54.00	-2.16	3	Horizontal	183	1.92
2440MHz	Pass	AV	7.31778G	35.24	54.00	-18.76	3	Horizontal	162	1.50
2440MHz	Pass	PK	4.88001G	56.31	74.00	-17.69	3	Horizontal	183	1.92
2440MHz	Pass	PK	7.32191G	45.81	74.00	-28.19	3	Horizontal	162	1.50
2480MHz	Pass	AV	2.48G	95.24	Inf	-Inf	3	Vertical	200	2.88
2480MHz	Pass	AV	2.4898G	49.67	54.00	-4.33	3	Vertical	200	2.88
2480MHz	Pass	PK	2.48G	96.27	Inf	-Inf	3	Vertical	200	2.88
2480MHz	Pass	PK	2.4974G	60.33	74.00	-13.67	3	Vertical	200	2.88
2480MHz	Pass	AV	2.48G	100.89	Inf	-Inf	3	Horizontal	186	2.15
2480MHz	Pass	AV	2.4968G	49.87	54.00	-4.13	3	Horizontal	186	2.15
2480MHz	Pass	PK	2.4798G	101.91	Inf	-Inf	3	Horizontal	186	2.15
2480MHz	Pass	PK	2.4938G	60.47	74.00	-13.53	3	Horizontal	186	2.15
2480MHz	Pass	AV	4.95974G	47.53	54.00	-6.47	3	Vertical	288	2.98
2480MHz	Pass	AV	7.43755G	34.36	54.00	-19.64	3	Vertical	274	1.87
2480MHz	Pass	PK	4.95947G	52.70	74.00	-21.30	3	Vertical	288	2.98
2480MHz	Pass	PK	7.43752G	46.19	74.00	-27.81	3	Vertical	274	1.87
2480MHz	Pass	AV	4.95974G	52.15	54.00	-1.85	3	Horizontal	185	1.50
2480MHz	Pass	AV	7.44019G	34.49	54.00	-19.51	3	Horizontal	223	2.95
2480MHz	Pass	PK	4.9605G	56.73	74.00	-17.27	3	Horizontal	185	1.50
2480MHz	Pass	PK	7.44018G	45.69	74.00	-28.31	3	Horizontal	223	2.95

2.4-2.4835GHz_BT-LE(1Mbps)

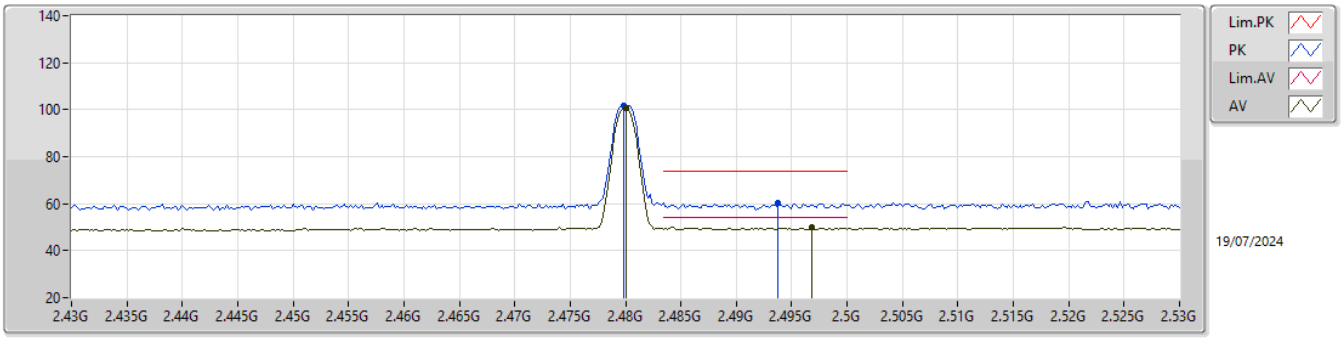
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	95.24	Inf	-Inf	32.13	3	Vertical	200	2.88	63.11	27.50	4.63	-
AV	2.4898G	49.67	54.00	-4.33	32.24	3	Vertical	200	2.88	17.43	27.60	4.64	-
PK	2.48G	96.27	Inf	-Inf	32.13	3	Vertical	200	2.88	64.14	27.50	4.63	-
PK	2.4974G	60.33	74.00	-13.67	32.25	3	Vertical	200	2.88	28.08	27.60	4.65	-

2.4-2.4835GHz_BT-LE(1Mbps)

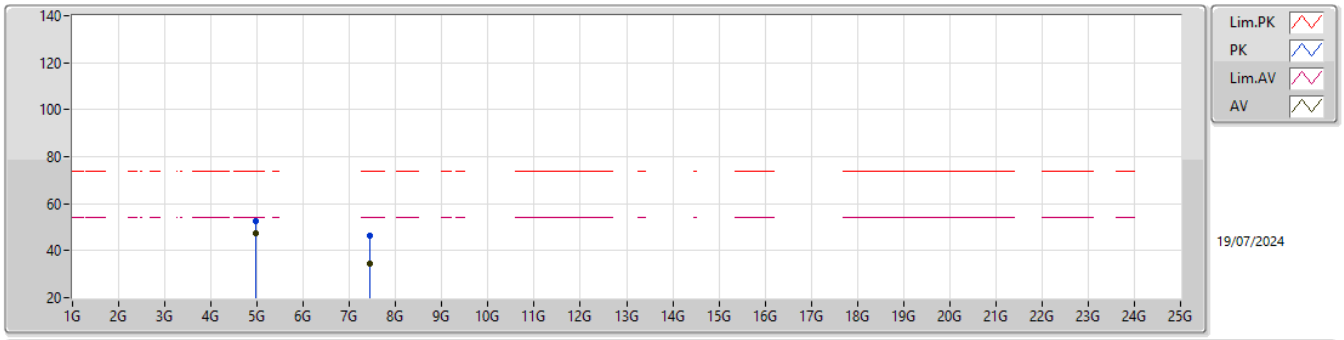
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	100.89	Inf	-Inf	32.13	3	Horizontal	186	2.15	68.76	27.50	4.63	-
AV	2.4968G	49.87	54.00	-4.13	32.25	3	Horizontal	186	2.15	17.62	27.60	4.65	-
PK	2.4798G	101.91	Inf	-Inf	32.13	3	Horizontal	186	2.15	69.78	27.50	4.63	-
PK	2.4938G	60.47	74.00	-13.53	32.25	3	Horizontal	186	2.15	28.22	27.60	4.65	-

2.4-2.4835GHz_BT-LE(1Mbps)

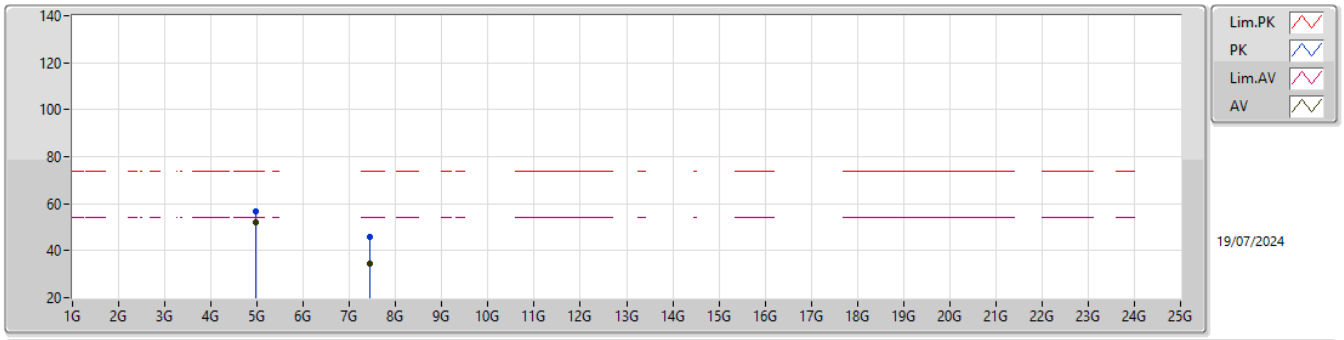
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95974G	47.53	54.00	-6.47	4.84	3	Vertical	288	2.98	42.69	32.94	6.68	34.78
AV	7.43755G	34.36	54.00	-19.64	9.49	3	Vertical	274	1.87	24.87	36.12	8.37	35.00
PK	4.95947G	52.70	74.00	-21.30	4.84	3	Vertical	288	2.98	47.86	32.94	6.68	34.78
PK	7.43752G	46.19	74.00	-27.81	9.49	3	Vertical	274	1.87	36.70	36.12	8.37	35.00

2.4-2.4835GHz_BT-LE(1Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95974G	52.15	54.00	-1.85	4.84	3	Horizontal	185	1.50	47.31	32.94	6.68	34.78
AV	7.44019G	34.49	54.00	-19.51	9.49	3	Horizontal	223	2.95	25.00	36.12	8.37	35.00
PK	4.9605G	56.73	74.00	-17.27	4.84	3	Horizontal	185	1.50	51.89	32.94	6.68	34.78
PK	7.44018G	45.69	74.00	-28.31	9.49	3	Horizontal	223	2.95	36.20	36.12	8.37	35.00

Summary

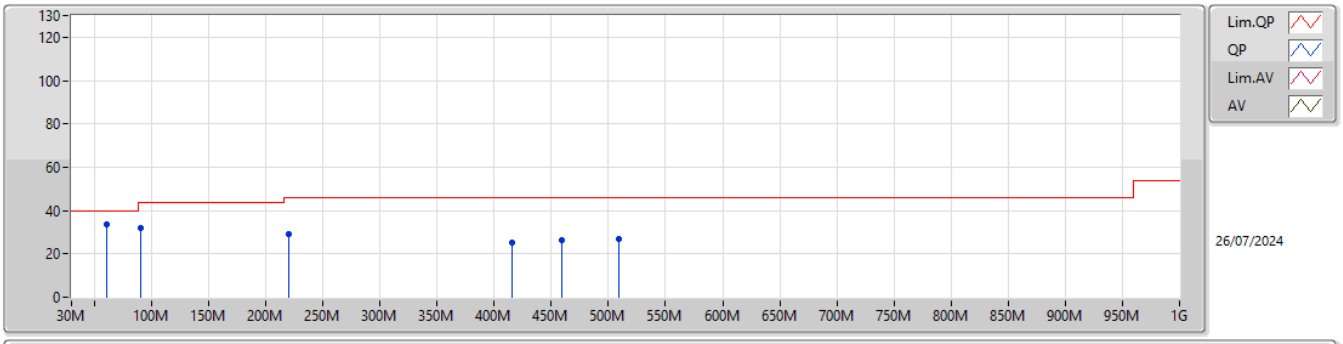
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	94.02M	38.50	43.50	-5.00	3	Horizontal	360	3.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz_Adapter	Pass	PK	90.14M	32.19	43.50	-11.31	3	Vertical	0	3.00
2440MHz_Adapter	Pass	PK	220.12M	29.03	46.00	-16.97	3	Vertical	0	3.00
2440MHz_Adapter	Pass	PK	416.06M	25.12	46.00	-20.88	3	Vertical	0	3.00
2440MHz_Adapter	Pass	PK	458.74M	26.53	46.00	-19.47	3	Vertical	0	3.00
2440MHz_Adapter	Pass	PK	509.18M	26.83	46.00	-19.17	3	Vertical	0	3.00
2440MHz_Adapter	Pass	QP	60.9M	33.56	40.00	-6.44	3	Vertical	325	1.00
2440MHz_Adapter	Pass	PK	61.04M	29.57	40.00	-10.43	3	Horizontal	360	3.00
2440MHz_Adapter	Pass	PK	94.02M	38.50	43.50	-5.00	3	Horizontal	360	3.00
2440MHz_Adapter	Pass	PK	220.12M	29.30	46.00	-16.70	3	Horizontal	360	3.00
2440MHz_Adapter	Pass	PK	416.06M	26.01	46.00	-19.99	3	Horizontal	360	3.00
2440MHz_Adapter	Pass	PK	483.96M	26.73	46.00	-19.27	3	Horizontal	360	3.00
2440MHz_Adapter	Pass	PK	580.96M	28.52	46.00	-17.48	3	Horizontal	360	3.00

2.4-2.4835GHz_BT-LE(1Mbps)

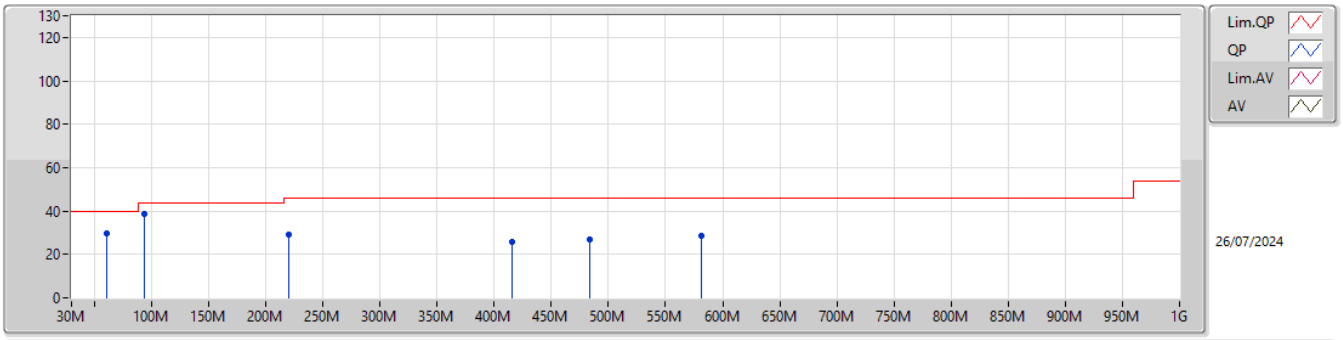
2440MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	90.14M	32.19	43.50	-11.31	-11.57	3	Vertical	0	3.00	43.76	14.14	1.88	27.59
PK	220.12M	29.03	46.00	-16.97	-9.79	3	Vertical	0	3.00	38.82	14.35	3.06	27.20
PK	416.06M	25.12	46.00	-20.88	-1.69	3	Vertical	0	3.00	26.81	21.82	4.35	27.86
PK	458.74M	26.53	46.00	-19.47	-1.33	3	Vertical	0	3.00	27.86	22.14	4.64	28.11
PK	509.18M	26.83	46.00	-19.17	-0.86	3	Vertical	0	3.00	27.69	22.53	4.93	28.32
QP	60.9M	33.56	40.00	-6.44	-13.57	3	Vertical	325	1.00	47.13	11.51	1.72	26.80

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	61.04M	29.57	40.00	-10.43	-13.58	3	Horizontal	360	3.00	43.15	11.51	1.72	26.81
PK	94.02M	38.50	43.50	-5.00	-10.69	3	Horizontal	360	3.00	49.19	14.98	1.94	27.61
PK	220.12M	29.30	46.00	-16.70	-9.79	3	Horizontal	360	3.00	39.09	14.35	3.06	27.20
PK	416.06M	26.01	46.00	-19.99	-1.69	3	Horizontal	360	3.00	27.70	21.82	4.35	27.86
PK	483.96M	26.73	46.00	-19.27	-0.81	3	Horizontal	360	3.00	27.54	22.64	4.79	28.24
PK	580.96M	28.52	46.00	-17.48	1.12	3	Horizontal	360	3.00	27.40	23.95	5.54	28.37

Summary

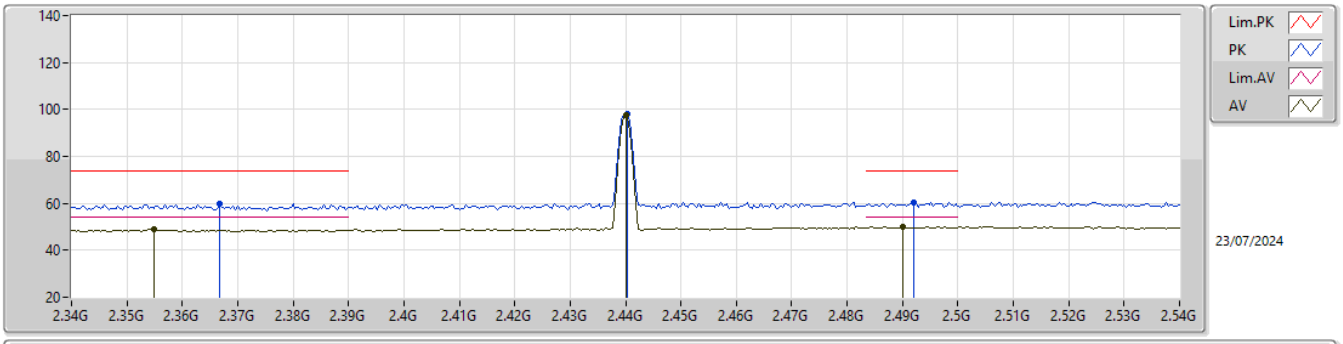
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.49G	49.99	54.00	-4.01	3	Vertical	197	1.26

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3864G	48.72	54.00	-5.28	3	Vertical	198	1.11
2402MHz	Pass	AV	2.402G	95.36	Inf	-Inf	3	Vertical	198	1.11
2402MHz	Pass	PK	2.3804G	60.29	74.00	-13.71	3	Vertical	198	1.11
2402MHz	Pass	PK	2.4022G	96.38	Inf	-Inf	3	Vertical	198	1.11
2402MHz	Pass	AV	2.39G	48.98	54.00	-5.02	3	Horizontal	305	1.95
2402MHz	Pass	AV	2.402G	104.21	Inf	-Inf	3	Horizontal	305	1.95
2402MHz	Pass	PK	2.3728G	59.62	74.00	-14.38	3	Horizontal	305	1.95
2402MHz	Pass	PK	2.4022G	105.18	Inf	-Inf	3	Horizontal	305	1.95
2402MHz	Pass	AV	4.8036G	40.80	54.00	-13.20	3	Vertical	336	2.06
2402MHz	Pass	PK	4.80436G	47.41	74.00	-26.59	3	Vertical	336	2.06
2402MHz	Pass	AV	4.80364G	49.79	54.00	-4.21	3	Horizontal	76	2.36
2402MHz	Pass	PK	4.80416G	54.34	74.00	-19.66	3	Horizontal	76	2.36
2440MHz	Pass	AV	2.3548G	48.98	54.00	-5.02	3	Vertical	197	1.26
2440MHz	Pass	AV	2.44G	97.34	Inf	-Inf	3	Vertical	197	1.26
2440MHz	Pass	AV	2.49G	49.99	54.00	-4.01	3	Vertical	197	1.26
2440MHz	Pass	PK	2.3668G	60.07	74.00	-13.93	3	Vertical	197	1.26
2440MHz	Pass	PK	2.4404G	98.32	Inf	-Inf	3	Vertical	197	1.26
2440MHz	Pass	PK	2.492G	60.52	74.00	-13.48	3	Vertical	197	1.26
2440MHz	Pass	AV	2.3456G	48.73	54.00	-5.27	3	Horizontal	307	1.92
2440MHz	Pass	AV	2.44G	106.24	Inf	-Inf	3	Horizontal	307	1.92
2440MHz	Pass	AV	2.5G	49.96	54.00	-4.04	3	Horizontal	307	1.92
2440MHz	Pass	PK	2.3856G	59.55	74.00	-14.45	3	Horizontal	307	1.92
2440MHz	Pass	PK	2.44G	107.20	Inf	-Inf	3	Horizontal	307	1.92
2440MHz	Pass	PK	2.4988G	60.49	74.00	-13.51	3	Horizontal	307	1.92
2440MHz	Pass	AV	4.87968G	39.71	54.00	-14.29	3	Vertical	320	1.79
2440MHz	Pass	AV	7.31204G	35.37	54.00	-18.63	3	Vertical	206	1.50
2440MHz	Pass	PK	4.87944G	46.57	74.00	-27.43	3	Vertical	320	1.79
2440MHz	Pass	PK	7.31596G	46.53	74.00	-27.47	3	Vertical	206	1.50
2440MHz	Pass	AV	4.87968G	48.01	54.00	-5.99	3	Horizontal	76	2.29
2440MHz	Pass	AV	7.32548G	35.29	54.00	-18.71	3	Horizontal	2	1.50
2440MHz	Pass	PK	4.87948G	52.92	74.00	-21.08	3	Horizontal	76	2.29
2440MHz	Pass	PK	7.3168G	46.66	74.00	-27.34	3	Horizontal	2	1.50
2480MHz	Pass	AV	2.48G	96.84	Inf	-Inf	3	Vertical	195	1.16
2480MHz	Pass	AV	2.4906G	49.99	54.00	-4.01	3	Vertical	195	1.16
2480MHz	Pass	PK	2.4798G	97.82	Inf	-Inf	3	Vertical	195	1.16
2480MHz	Pass	PK	2.4858G	60.56	74.00	-13.44	3	Vertical	195	1.16
2480MHz	Pass	AV	2.48G	102.47	Inf	-Inf	3	Horizontal	54	2.23
2480MHz	Pass	AV	2.4916G	49.99	54.00	-4.01	3	Horizontal	54	2.23
2480MHz	Pass	PK	2.48G	103.46	Inf	-Inf	3	Horizontal	54	2.23
2480MHz	Pass	PK	2.4838G	61.27	74.00	-12.73	3	Horizontal	54	2.23
2480MHz	Pass	AV	4.95G	31.21	54.00	-22.79	3	Vertical	308	3.00
2480MHz	Pass	AV	7.44832G	35.08	54.00	-18.92	3	Vertical	134	1.50
2480MHz	Pass	PK	4.95196G	42.74	74.00	-31.26	3	Vertical	308	3.00
2480MHz	Pass	PK	7.44348G	45.95	74.00	-28.05	3	Vertical	134	1.50
2480MHz	Pass	AV	4.96172G	31.20	54.00	-22.80	3	Horizontal	38	1.22
2480MHz	Pass	AV	7.44152G	34.98	54.00	-19.02	3	Horizontal	331	1.50
2480MHz	Pass	PK	4.96388G	42.14	74.00	-31.86	3	Horizontal	38	1.22
2480MHz	Pass	PK	7.44008G	45.99	74.00	-28.01	3	Horizontal	331	1.50

2.4-2.4835GHz_BT-LE(1Mbps)

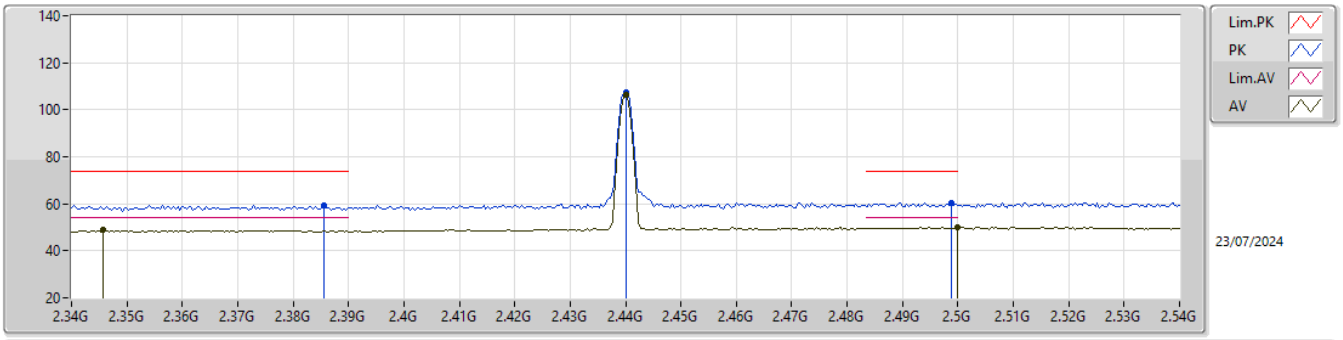
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.3548G	48.98	54.00	-5.02	31.64	3	Vertical	197	1.26	17.34	27.15	4.49	-
AV	2.44G	97.34	Inf	-Inf	31.99	3	Vertical	197	1.26	65.35	27.40	4.59	-
AV	2.49G	49.99	54.00	-4.01	32.24	3	Vertical	197	1.26	17.75	27.60	4.64	-
PK	2.3668G	60.07	74.00	-13.93	31.64	3	Vertical	197	1.26	28.43	27.13	4.51	-
PK	2.4404G	98.32	Inf	-Inf	31.99	3	Vertical	197	1.26	66.33	27.40	4.59	-
PK	2.492G	60.52	74.00	-13.48	32.25	3	Vertical	197	1.26	28.27	27.60	4.65	-

2.4-2.4835GHz_BT-LE(1Mbps)

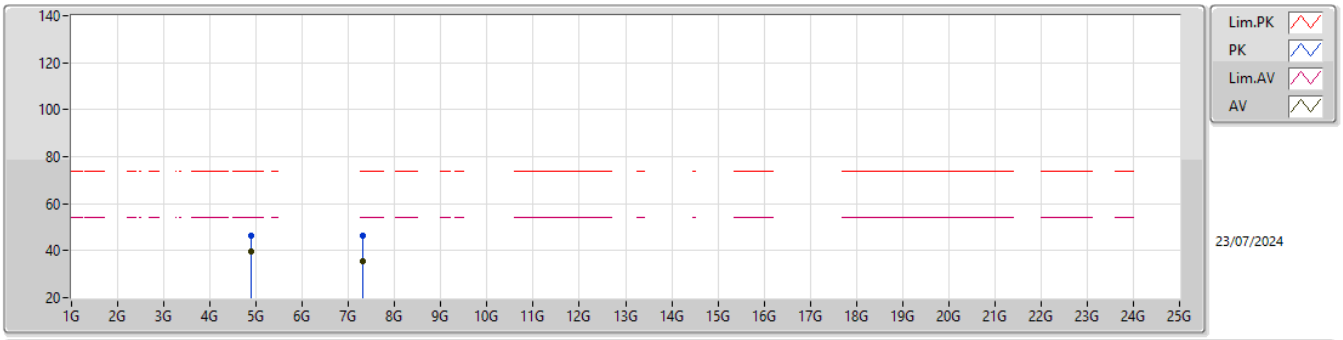
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.3456G	48.73	54.00	-5.27	31.54	3	Horizontal	307	1.92	17.19	27.06	4.48	-
AV	2.44G	106.24	Inf	-Inf	31.99	3	Horizontal	307	1.92	74.25	27.40	4.59	-
AV	2.5G	49.96	54.00	-4.04	32.25	3	Horizontal	307	1.92	17.71	27.60	4.65	-
PK	2.3856G	59.55	74.00	-14.45	31.78	3	Horizontal	307	1.92	27.77	27.26	4.52	-
PK	2.44G	107.20	Inf	-Inf	31.99	3	Horizontal	307	1.92	75.21	27.40	4.59	-
PK	2.4988G	60.49	74.00	-13.51	32.25	3	Horizontal	307	1.92	28.24	27.60	4.65	-

2.4-2.4835GHz_BT-LE(1Mbps)

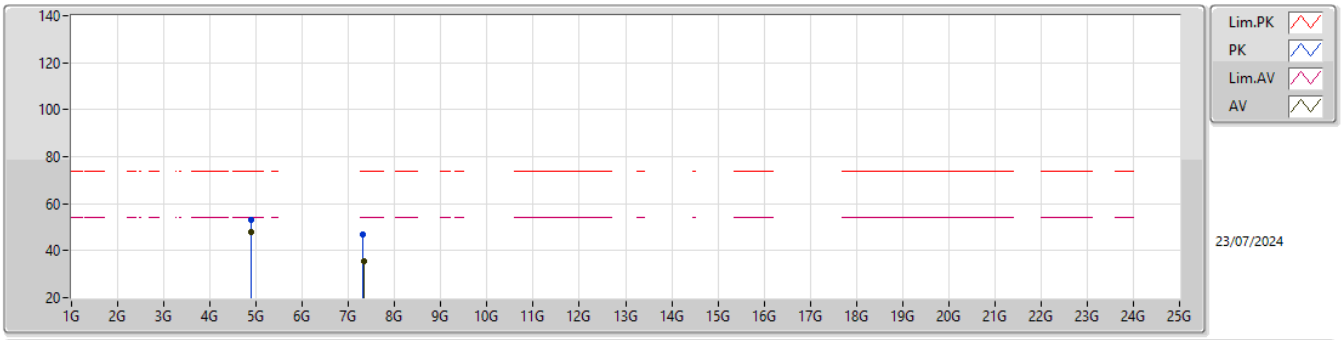
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.87968G	39.71	54.00	-14.29	4.30	3	Vertical	320	1.79	35.41	32.52	6.59	34.81
AV	7.31204G	35.37	54.00	-18.63	10.03	3	Vertical	206	1.50	25.34	36.65	8.30	34.92
PK	4.87944G	46.57	74.00	-27.43	4.30	3	Vertical	320	1.79	42.27	32.52	6.59	34.81
PK	7.31596G	46.53	74.00	-27.47	10.01	3	Vertical	206	1.50	36.52	36.64	8.30	34.93

2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.87968G	48.01	54.00	-5.99	4.30	3	Horizontal	76	2.29	43.71	32.52	6.59	34.81
AV	7.32548G	35.29	54.00	-18.71	9.98	3	Horizontal	2	1.50	25.31	36.60	8.31	34.93
PK	4.87948G	52.92	74.00	-21.08	4.30	3	Horizontal	76	2.29	48.62	32.52	6.59	34.81
PK	7.3168G	46.66	74.00	-27.34	10.00	3	Horizontal	2	1.50	36.66	36.63	8.30	34.93

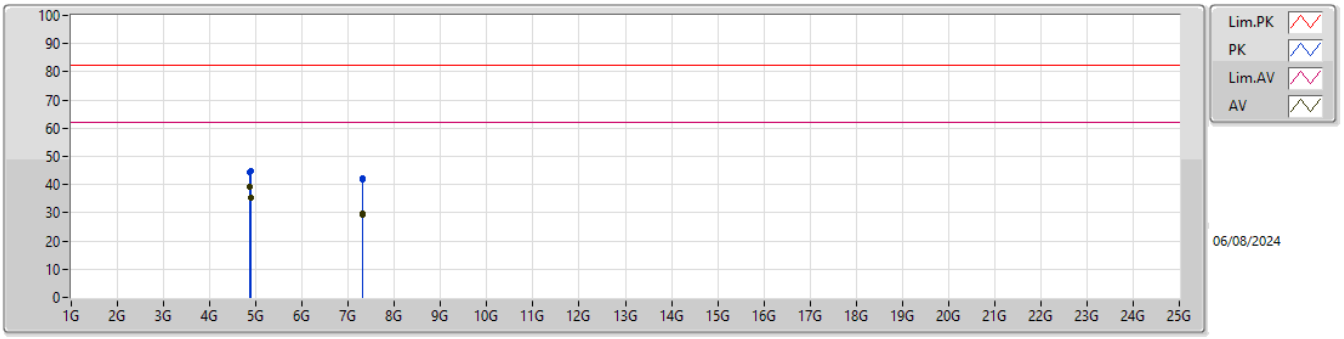
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.87393G	44.49	62.20	-17.71	Horizontal
Mode 2	Pass	AV	4.87995G	54.21	62.20	-7.99	Horizontal

Result

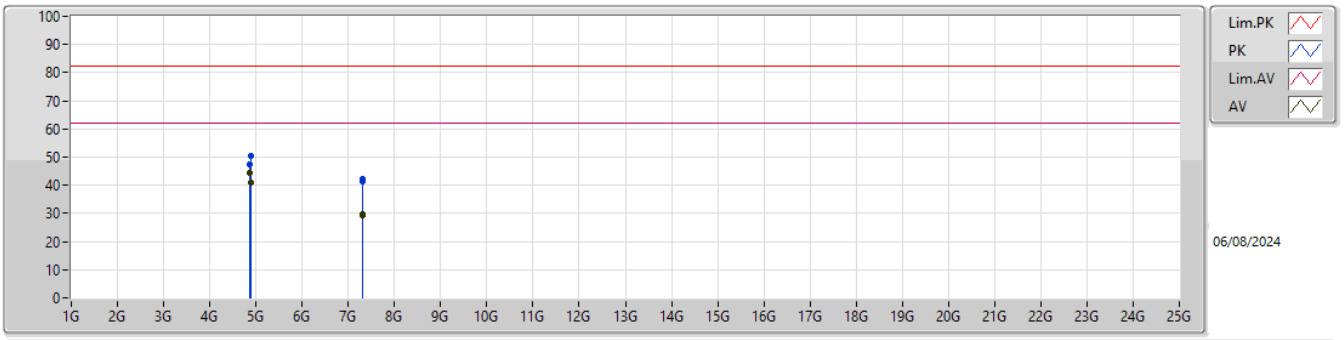
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 1	Pass	AV	4.87397G	39.02	62.20	-23.18	3	Vertical	200	1.05
Mode 1	Pass	AV	4.87987G	35.22	62.20	-26.98	3	Vertical	331	2.97
Mode 1	Pass	AV	7.30906G	29.44	62.20	-32.76	3	Vertical	99	1.50
Mode 1	Pass	AV	7.32113G	29.62	62.20	-32.58	3	Vertical	213	2.12
Mode 1	Pass	PK	4.87413G	44.43	82.20	-37.77	3	Vertical	200	1.05
Mode 1	Pass	PK	4.88037G	44.86	82.20	-37.34	3	Vertical	331	2.97
Mode 1	Pass	PK	7.31309G	41.77	82.20	-40.43	3	Vertical	99	1.50
Mode 1	Pass	PK	7.31896G	42.06	82.20	-40.14	3	Vertical	213	2.12
Mode 1	Pass	AV	4.87393G	44.49	62.20	-17.71	3	Horizontal	298	2.19
Mode 1	Pass	AV	4.87991G	41.16	62.20	-21.04	3	Horizontal	24	1.01
Mode 1	Pass	AV	7.3101G	29.83	62.20	-32.37	3	Horizontal	261	2.13
Mode 1	Pass	AV	7.31944G	29.47	62.20	-32.73	3	Horizontal	223	1.50
Mode 1	Pass	PK	4.87394G	47.44	82.20	-34.76	3	Horizontal	298	2.19
Mode 1	Pass	PK	4.87943G	50.23	82.20	-31.97	3	Horizontal	24	1.01
Mode 1	Pass	PK	7.31346G	41.27	82.20	-40.93	3	Horizontal	261	2.13
Mode 1	Pass	PK	7.31838G	42.27	82.20	-39.93	3	Horizontal	223	1.50
Mode 2	Pass	AV	4.87993G	47.81	62.20	-14.39	3	Vertical	326	2.92
Mode 2	Pass	AV	10.40444G	32.86	62.20	-29.34	3	Vertical	191	1.28
Mode 2	Pass	AV	15.58509G	34.20	62.20	-28.00	3	Vertical	289	1.78
Mode 2	Pass	PK	4.87948G	54.25	82.20	-27.95	3	Vertical	326	2.92
Mode 2	Pass	PK	10.40275G	44.65	82.20	-37.55	3	Vertical	191	1.28
Mode 2	Pass	PK	15.60501G	46.09	82.20	-36.11	3	Vertical	289	1.78
Mode 2	Pass	AV	4.87995G	54.21	62.20	-7.99	3	Horizontal	200	1.08
Mode 2	Pass	AV	10.40081G	34.13	62.20	-28.07	3	Horizontal	355	1.94
Mode 2	Pass	AV	15.58539G	34.20	62.20	-28.00	3	Horizontal	287	1.63
Mode 2	Pass	PK	4.88048G	60.65	82.20	-21.55	3	Horizontal	200	1.08
Mode 2	Pass	PK	10.39763G	46.12	82.20	-36.08	3	Horizontal	355	1.94
Mode 2	Pass	PK	15.5934G	45.78	82.20	-36.42	3	Horizontal	287	1.63

Radiated Emissions above 1GHz_Mode 1



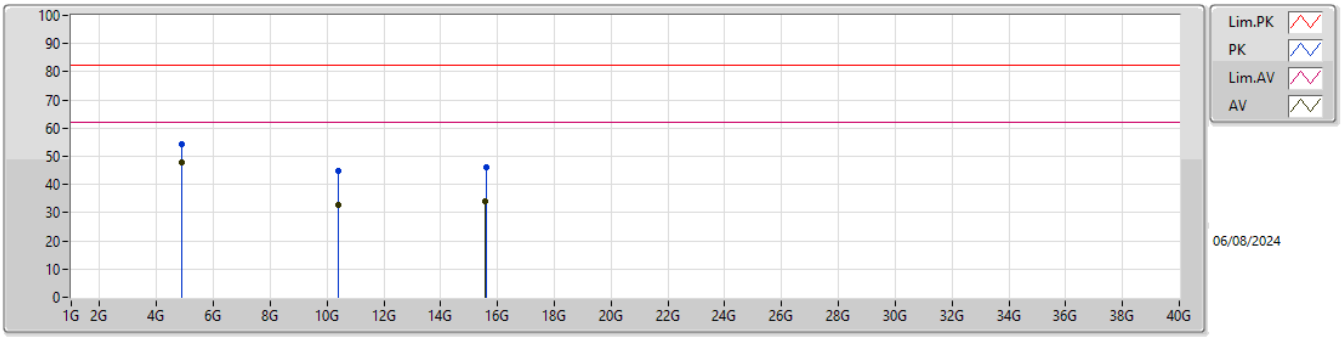
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87397G	39.02	62.20	-23.18	-5.44	3	Vertical	200	1.05	44.46	32.50	6.59	44.53
AV	4.87987G	35.22	62.20	-26.98	-5.43	3	Vertical	331	2.97	40.65	32.52	6.59	44.54
AV	7.30906G	29.44	62.20	-32.76	0.16	3	Vertical	99	1.50	29.28	36.66	8.29	44.79
AV	7.32113G	29.62	62.20	-32.58	0.13	3	Vertical	213	2.12	29.49	36.62	8.30	44.79
PK	4.87413G	44.43	82.20	-37.77	-5.44	3	Vertical	200	1.05	49.87	32.50	6.59	44.53
PK	4.88037G	44.86	82.20	-37.34	-5.43	3	Vertical	331	2.97	50.29	32.52	6.59	44.54
PK	7.31309G	41.77	82.20	-40.43	0.16	3	Vertical	99	1.50	41.61	36.65	8.30	44.79
PK	7.31896G	42.06	82.20	-40.14	0.13	3	Vertical	213	2.12	41.93	36.62	8.30	44.79

Radiated Emissions above 1GHz_Mode 1



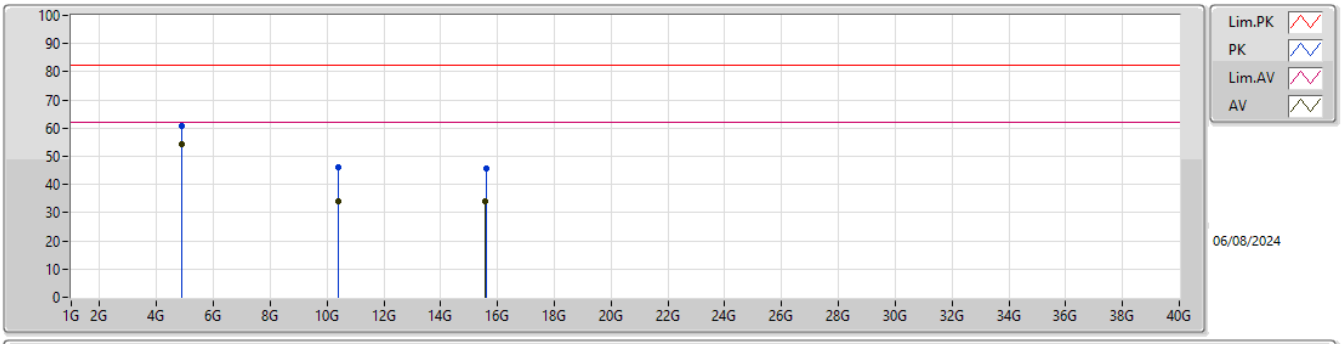
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87393G	44.49	62.20	-17.71	-5.44	3	Horizontal	298	2.19	49.93	32.50	6.59	44.53
AV	4.87991G	41.16	62.20	-21.04	-5.43	3	Horizontal	24	1.01	46.59	32.52	6.59	44.54
AV	7.3101G	29.83	62.20	-32.37	0.16	3	Horizontal	261	2.13	29.67	36.66	8.29	44.79
AV	7.31944G	29.47	62.20	-32.73	0.13	3	Horizontal	223	1.50	29.34	36.62	8.30	44.79
PK	4.87394G	47.44	82.20	-34.76	-5.44	3	Horizontal	298	2.19	52.88	32.50	6.59	44.53
PK	4.87943G	50.23	82.20	-31.97	-5.43	3	Horizontal	24	1.01	55.66	32.52	6.59	44.54
PK	7.31346G	41.27	82.20	-40.93	0.16	3	Horizontal	261	2.13	41.11	36.65	8.30	44.79
PK	7.31838G	42.27	82.20	-39.93	0.14	3	Horizontal	223	1.50	42.13	36.63	8.30	44.79

Radiated Emissions above 1GHz_Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87993G	47.81	62.20	-14.39	-5.43	3	Vertical	326	2.92	53.24	32.52	6.59	44.54
AV	10.40444G	32.86	62.20	-29.34	5.88	3	Vertical	191	1.28	26.98	38.60	10.34	43.06
AV	15.58509G	34.20	62.20	-28.00	7.27	3	Vertical	289	1.78	26.93	38.03	13.04	43.80
PK	4.87948G	54.25	82.20	-27.95	-5.43	3	Vertical	326	2.92	59.68	32.52	6.59	44.54
PK	10.40275G	44.65	82.20	-37.55	5.88	3	Vertical	191	1.28	38.77	38.60	10.34	43.06
PK	15.60501G	46.09	82.20	-36.11	7.22	3	Vertical	289	1.78	38.87	37.98	13.05	43.81

Radiated Emissions above 1GHz_Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87995G	54.21	62.20	-7.99	-5.43	3	Horizontal	200	1.08	59.64	32.52	6.59	44.54
AV	10.40081G	34.13	62.20	-28.07	5.88	3	Horizontal	355	1.94	28.25	38.60	10.34	43.06
AV	15.58539G	34.20	62.20	-28.00	7.27	3	Horizontal	287	1.63	26.93	38.03	13.04	43.80
PK	4.88048G	60.65	82.20	-21.55	-5.43	3	Horizontal	200	1.08	66.08	32.52	6.59	44.54
PK	10.39763G	46.12	82.20	-36.08	5.88	3	Horizontal	355	1.94	40.24	38.60	10.34	43.06
PK	15.5934G	45.78	82.20	-36.42	7.26	3	Horizontal	287	1.63	38.52	38.01	13.05	43.80

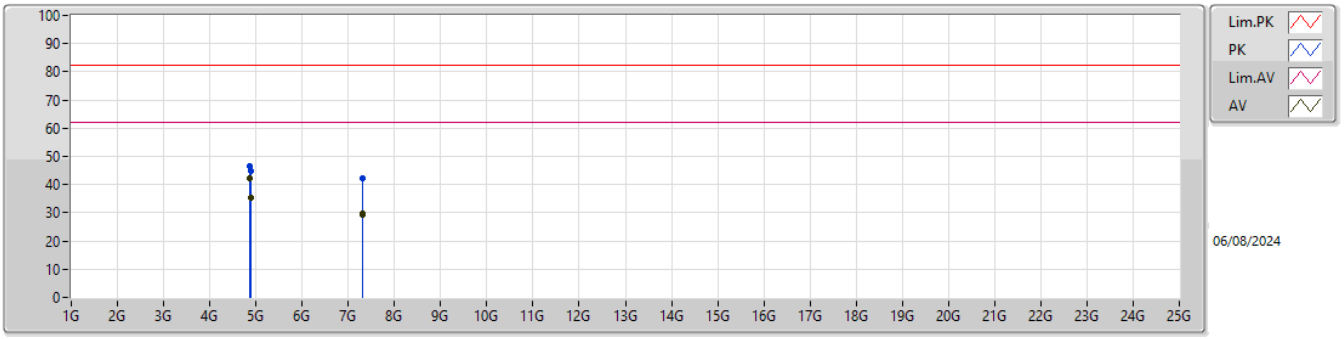
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.88021G	45.01	62.20	-17.19	Horizontal
Mode 2	Pass	AV	4.87986G	55.97	62.20	-6.23	Horizontal

Result

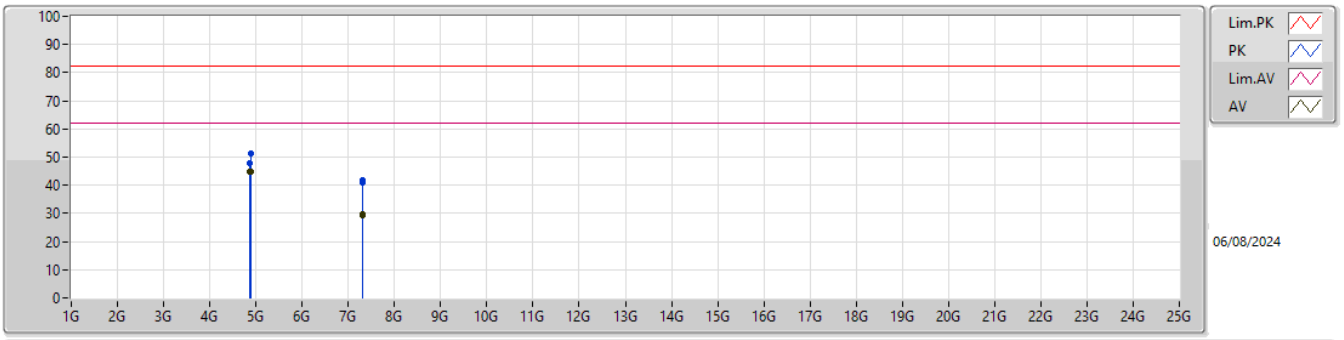
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	4.87394G	42.43	62.20	-19.77	3	Vertical	168	1.30	-
Mode 1	Pass	AV	4.87993G	35.20	62.20	-27.00	3	Vertical	322	1.56	-
Mode 1	Pass	AV	7.31251G	29.35	62.20	-32.85	3	Vertical	211	1.72	-
Mode 1	Pass	AV	7.32053G	29.62	62.20	-32.58	3	Vertical	52	2.06	-
Mode 1	Pass	PK	4.87392G	46.53	82.20	-35.67	3	Vertical	168	1.30	-
Mode 1	Pass	PK	4.87938G	44.97	82.20	-37.23	3	Vertical	322	1.56	-
Mode 1	Pass	PK	7.3121G	42.08	82.20	-40.12	3	Vertical	211	1.72	-
Mode 1	Pass	PK	7.32193G	42.34	82.20	-39.86	3	Vertical	52	2.06	-
Mode 1	Pass	AV	4.87396G	44.82	62.20	-17.38	3	Horizontal	300	1.50	-
Mode 1	Pass	AV	4.88021G	45.01	62.20	-17.19	3	Horizontal	296	2.99	-
Mode 1	Pass	AV	7.31292G	29.51	62.20	-32.69	3	Horizontal	218	1.36	-
Mode 1	Pass	AV	7.31821G	29.72	62.20	-32.48	3	Horizontal	62	1.30	-
Mode 1	Pass	PK	4.87399G	47.79	82.20	-34.41	3	Horizontal	300	1.50	-
Mode 1	Pass	PK	4.8795G	51.08	82.20	-31.12	3	Horizontal	296	2.99	-
Mode 1	Pass	PK	7.3104G	41.07	82.20	-41.13	3	Horizontal	218	1.36	-
Mode 1	Pass	PK	7.3211G	41.90	82.20	-40.30	3	Horizontal	62	1.30	-
Mode 2	Pass	AV	4.87992G	47.08	62.20	-15.12	3	Vertical	25	1.44	-
Mode 2	Pass	AV	10.40132G	33.10	62.20	-29.10	3	Vertical	113	1.40	-
Mode 2	Pass	AV	15.5859G	34.52	62.20	-27.68	3	Vertical	336	2.90	-
Mode 2	Pass	PK	4.87945G	53.66	82.20	-28.54	3	Vertical	25	1.44	-
Mode 2	Pass	PK	10.39852G	44.89	82.20	-37.31	3	Vertical	113	1.40	-
Mode 2	Pass	PK	15.5916G	45.87	82.20	-36.33	3	Vertical	336	2.90	-
Mode 2	Pass	AV	4.87986G	55.97	62.20	-6.23	3	Horizontal	298	2.26	-
Mode 2	Pass	AV	10.40001G	32.48	62.20	-29.72	3	Horizontal	217	2.26	-
Mode 2	Pass	AV	15.58662G	34.36	62.20	-27.84	3	Horizontal	270	1.50	-
Mode 2	Pass	PK	4.8795G	62.31	82.20	-19.89	3	Horizontal	298	2.26	-
Mode 2	Pass	PK	10.40176G	44.42	82.20	-37.78	3	Horizontal	217	2.26	-
Mode 2	Pass	PK	15.58767G	46.54	82.20	-35.66	3	Horizontal	270	1.50	-

Radiated Emissions above 1GHz_Mode 1



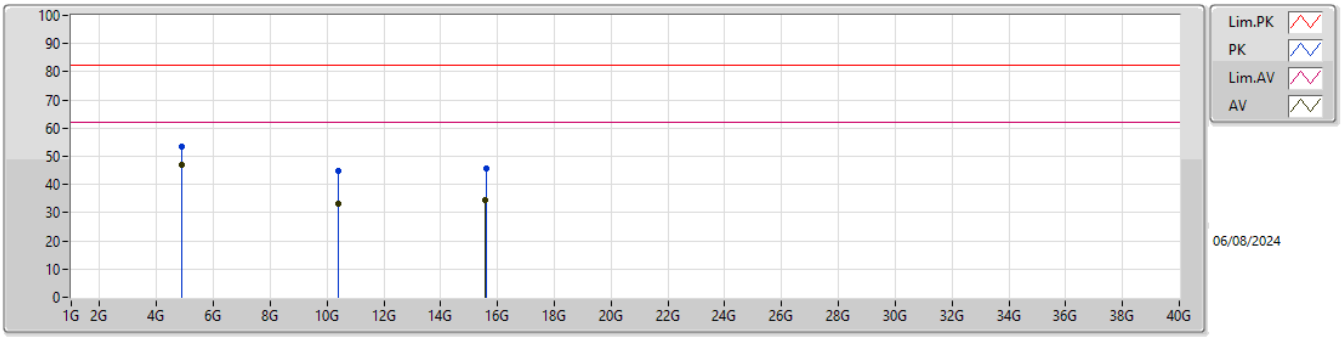
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87394G	42.43	62.20	-19.77	-5.44	3	Vertical	168	1.30	47.87	32.50	6.59	44.53
AV	4.87993G	35.20	62.20	-27.00	-5.43	3	Vertical	322	1.56	40.63	32.52	6.59	44.54
AV	7.31251G	29.35	62.20	-32.85	0.16	3	Vertical	211	1.72	29.19	36.65	8.30	44.79
AV	7.32053G	29.62	62.20	-32.58	0.13	3	Vertical	52	2.06	29.49	36.62	8.30	44.79
PK	4.87392G	46.53	82.20	-35.67	-5.44	3	Vertical	168	1.30	51.97	32.50	6.59	44.53
PK	4.87938G	44.97	82.20	-37.23	-5.43	3	Vertical	322	1.56	50.40	32.52	6.59	44.54
PK	7.3121G	42.08	82.20	-40.12	0.16	3	Vertical	211	1.72	41.92	36.65	8.30	44.79
PK	7.32193G	42.34	82.20	-39.86	0.12	3	Vertical	52	2.06	42.22	36.61	8.30	44.79

Radiated Emissions above 1GHz_Mode 1



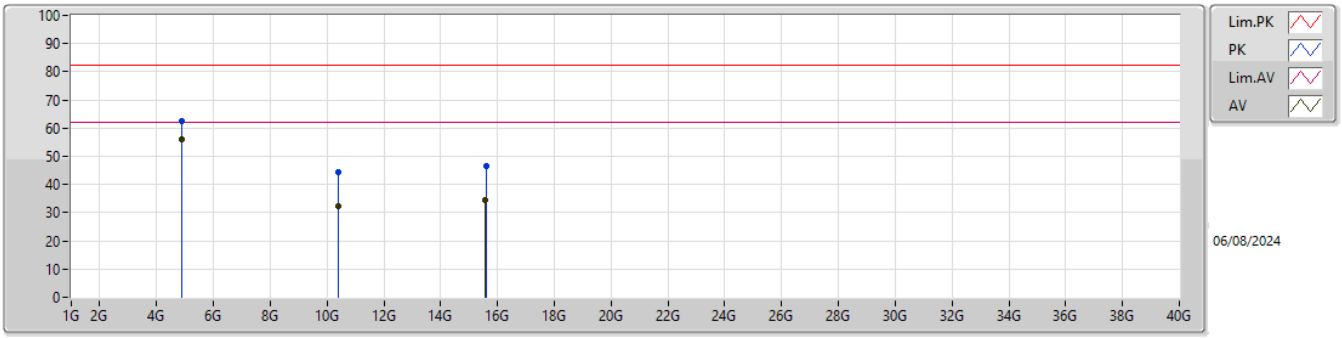
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87396G	44.82	62.20	-17.38	-5.44	3	Horizontal	300	1.50	50.26	32.50	6.59	44.53
AV	4.88021G	45.01	62.20	-17.19	-5.43	3	Horizontal	296	2.99	50.44	32.52	6.59	44.54
AV	7.31292G	29.51	62.20	-32.69	0.16	3	Horizontal	218	1.36	29.35	36.65	8.30	44.79
AV	7.31821G	29.72	62.20	-32.48	0.14	3	Horizontal	62	1.30	29.58	36.63	8.30	44.79
PK	4.87399G	47.79	82.20	-34.41	-5.44	3	Horizontal	300	1.50	53.23	32.50	6.59	44.53
PK	4.8795G	51.08	82.20	-31.12	-5.43	3	Horizontal	296	2.99	56.51	32.52	6.59	44.54
PK	7.3104G	41.07	82.20	-41.13	0.16	3	Horizontal	218	1.36	40.91	36.66	8.29	44.79
PK	7.3211G	41.90	82.20	-40.30	0.13	3	Horizontal	62	1.30	41.77	36.62	8.30	44.79

Radiated Emissions above 1GHz_Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87992G	47.08	62.20	-15.12	-5.43	3	Vertical	25	1.44	52.51	32.52	6.59	44.54
AV	10.40132G	33.10	62.20	-29.10	5.88	3	Vertical	113	1.40	27.22	38.60	10.34	43.06
AV	15.5859G	34.52	62.20	-27.68	7.27	3	Vertical	336	2.90	27.25	38.03	13.04	43.80
PK	4.87945G	53.66	82.20	-28.54	-5.43	3	Vertical	25	1.44	59.09	32.52	6.59	44.54
PK	10.39852G	44.89	82.20	-37.31	5.88	3	Vertical	113	1.40	39.01	38.60	10.34	43.06
PK	15.5916G	45.87	82.20	-36.33	7.26	3	Vertical	336	2.90	38.61	38.02	13.04	43.80

Radiated Emissions above 1GHz_Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)	(dBuV)	(dB/m)	(dB)	(dB)
AV	4.87986G	55.97	62.20	-6.23	-5.43	3	Horizontal	298	2.26	61.40	32.52	6.59	44.54
AV	10.40001G	32.48	62.20	-29.72	5.88	3	Horizontal	217	2.26	26.60	38.60	10.34	43.06
AV	15.58662G	34.36	62.20	-27.84	7.27	3	Horizontal	270	1.50	27.09	38.03	13.04	43.80
PK	4.8795G	62.31	82.20	-19.89	-5.43	3	Horizontal	298	2.26	67.74	32.52	6.59	44.54
PK	10.40176G	44.42	82.20	-37.78	5.88	3	Horizontal	217	2.26	38.54	38.60	10.34	43.06
PK	15.58767G	46.54	82.20	-35.66	7.26	3	Horizontal	270	1.50	39.28	38.02	13.04	43.80